



Ref. Certif. No.

JPTUV-118680

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product	IP PABX
Name and address of the applicant	Ericsson-LG Enterprise Co., Ltd. LG Gasan digital Center 11F, Gasandigital 1-ro 189, Geumchun-gu, Seoul 08503, Republic of Korea
Name and address of the manufacturer	Ericsson-LG Enterprise Co., Ltd. LG Gasan digital Center 11F, Gasandigital 1-ro 189, Geumchun-gu, Seoul 08503, Republic of Korea
Name and address of the factory	LN Srithai Comm Co., Ltd. 71/12 Moo 5 Bangna Trad Rd. KM52, Thakarm Banpakong ChachoengSao, Thailand 24130
Ratings and principal characteristics	AC 100-240 V; 50/60 Hz; 4.0 A; Class I
Trademark (if any)	Ericsson-LG or iPECS
Customer's Testing Facility (CTF) Stage used	N/A
Model / Type Ref.	iPECS UCP
Additional information (if necessary may also be reported on page 2)	
A sample of the product was tested and found to be in conformity with	IEC 62368-1:2014 See Test Report for National Differences
As shown in the Test Report Ref. No. which forms part of this Certificate	60431540 001

This CB Test Certificate is issued by the National Certification Body



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Global Technology Assessment Center
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Test Report issued under the responsibility of:



TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number : 60431540 001
Date of issue : 05.01.2020
Total number of pages : 91

Applicant's name : Ericsson-LG Enterprise Co., Ltd.
Address : LG Gasan digital Center 11F, Gasandigital 1-ro 189, Geumchun-gu, Seoul 08503, Republic of Korea





Test specification:
Standard..... : IEC 62368-1:2014 (Second Edition)
Test procedure : CB Scheme
Non-standard test method : N/A

Test Report Form No. : IEC62368_1B
Test Report Form(s) Originator..... : UL(US)
Master TRF : 2014-03

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If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:
The test results presented in this report relate only to the object tested.
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Test Item description	IP PABX	
Trade Mark	Ericsson-LG or  or  or iPECS	
Manufacturer	Same as applicant	
Model/Type reference	iPECS UCP	
Ratings	AC 100-240 V, 50/60 Hz, 4.0 A, Class I	
Testing procedure and testing location:		
<input checked="" type="checkbox"/> CB Testing Laboratory:	TÜV Rheinland Korea Ltd.	
Testing location/ address	Young City, N-Tower, 25, Mullaero 28-gil, Yeongdeungpo-gu, Seoul #07298 Republic of Korea	
<input type="checkbox"/> Associated CB Testing Laboratory:		
Testing location/ address		
Tested by (name + signature)	Gwon-Ah Han/ Test engineer	
Approved by (name + signature)	Young-Yul Hwang/ Reviewer	
Testing procedure: TMP/CTF Stage 1		
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
Testing procedure: WMT/CTF Stage 2		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
Testing procedure: SMT/CTF Stage 3 or 4		
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
Supervised by (name + signature)		

List of Attachments (including a total number of pages in each attachment):
Attachment included in this Test Report:

- National Differences

Attachment separated from this Test Report:

- Photograph 24 pages

Summary of testing:
Tests performed (name of test and test clause):

All applicable tests as described in Test Case and Measurement Sections were performed.

This CB standard update test report is based on UL Korea Ltd., test report No. E366459-A39-CB-1 with the certificate No.: DK-37044-UL.

No technical changes in between as declared by the manufacturer except for:

- Check and update certificate validity of critical components and,
- Additional tests and evaluation per the new standard edition requirement.

Testing location:

TÜV Rheinland Korea Ltd.
Young City, N-Tower, 25, Mullae-ro 28-gil,
Yeongdeungpo-gu, Seoul #07298
Republic of Korea

Additional test and evaluation

Cl.4.4.4 Safeguard robustness
Cl.5.2 Classification of electrical energy sources
Cl.5.5.2.2 Stored discharge on capacitors
Cl.5.7.4 Earthed conductive accessible parts
Cl. 6.2.2 Electrical Power Source (PS) measurements for classification
Cl. B.3 Abnormal operating condition tests
Annex Q Limited power source

Summary of compliance with National Differences:
List of countries addressed

EU Group Differences

The product fulfils the requirements of EN 62368-1:2014+A11:2017.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



<p>⚠ WARNING</p> <p>Do not remove cover. Ne pas retirer le capot. No serviceable parts inside. Aucune pièce pouvant faire l'objet de maintenance à l'intérieur.</p>	<p>⚠ WARNING</p> <p>Before connecting the A.C mains, check for correct voaltage and fuse value. Avant le raccordement au réseau électrique, vérifiez que la tension et la valeur des fusibles sont correctes.</p>	<p>⚠ WARNING</p> <p>To protect against risk of electrical shock, the system must be earthed. Pour vous protéger contre tout risque de secousse électrique, le système doit être mis à la terre. Unplug all power cords from the wall outlet. Débranchez tous les cordons d'alimentation de la prise murale.</p>
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TEST ITEM PARTICULARS:	
Classification of use by	<input type="checkbox"/> Ordinary person <input checked="" type="checkbox"/> Instructed person <input checked="" type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection.....	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input checked="" type="checkbox"/> External Circuit - not Mains connected - <input checked="" type="checkbox"/> ES1 <input checked="" type="checkbox"/> ES2 <input checked="" type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> + <u>6</u> %/ - <u>10</u> % <input type="checkbox"/> None
Supply Connection – Type	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input checked="" type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other: building-in equipment shall be evaluated in end system (see also general product information).
Considered current rating of protective device as part of building or equipment installation	16 A Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input checked="" type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input checked="" type="checkbox"/> rack-mounting(not SRME) <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III
Access location	<input checked="" type="checkbox"/> restricted access location <input type="checkbox"/> N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient.....	40 °C
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP_____
Power Systems	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - <u>230</u> V L-L
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> <u>5000</u> m
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> _____ m
Mass of equipment (kg)	<input checked="" type="checkbox"/> 15.4

POSSIBLE TEST CASE VERDICTS:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
TESTING:	
Date of receipt of test item.....:	08. 11. 2020
Date (s) of performance of tests.....:	21.12.2020 - 05.01.2021
GENERAL REMARKS:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)	LN Srithai Comm Co., Ltd. 71/12 Moo 5 Bangna Trad Rd. KM52, Thakarm Banpakong, ChachoengSao, Thailand 24130

GENERAL PRODUCT INFORMATION:

1. The unit is internet Protocol (iP) Enterprise Communication Solution designed to meet the telecommunication needs of the small to medium sized business. iPECS uses advanced packet voice and IP switching technology, which is combined with a rich feature content, to set a new standard in Voice over IP (VoIP) systems. iPECS consists of a family of intelligent modules, which are interconnected over a 10/100 Base-T Ethernet LAN, easing the installation process and eliminating the need for an expensive back plane. A variety of modules are available including analog and digital network access gateways, which connect to the Public Switched Telephone Network (PSTN), ISDN or public and private VoIP networks. The Switching Hub, which provides connection to individual LIP Phones, incorporates circuitry for "power-feed" supporting PoE, Power over Ethernet LANs. LIP Phones provide the user simple access to the many features and functions of the iPECS.
2. This unit employ different kind of modules such as following.
 - UCP100/600/2400 : UCP100/600/2400 Call Server
 - UCP-VOIM8/24: 8/24CH VoIP Gateway Module
 - UCP-LGCM4/8: 4/8 Ports analog CO Gateway Module
 - UCP-DTIM8/24: Digital Terminal Interface gateway Module, 8/24 ports
 - UCP-SLTM4/8/32: Single Line Telephone gateway Module, 4/8/32 ports
 - UCP-BRIM2/4: BRI gateway Module, 2/4 port ISDN Interface (2B+D)
 - UCP-PRIM: PRI gateway Module, 1 port, 30 channels
 - UCP-VCIM: VoIP/Audio Conference Gateway Module
 - UCP-MCIM: Multi-Media Conference Module
 - UCP-UVM : Unified Voice Mail Module
 - UCP-ES8G/ES8GP : 8 Ports Gigabit/PoE Switch
 - UCP-COIU4/BIRU2/BRIU4 : 4 Port CO,2/4 BRI Unit for UCP100
 - UCP-CMU50PR/CMU1216 : Call metering Unit of UCP-LGCM4/8
 - UCP-MCKTE: Main Cabinet
 - UCP-1URMB: 19 inch Rack Mountable bracket for single gateway

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input	
ES1	
Source of electrical energy	Corresponding classification (ES)
Primary circuit	ES3
External circuit transient voltage Table 14, ID 1	ES2
T1 secondary out put to anode of D10	ES2
Secondary circuits except for above	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts):	
PS2	
Source of power or PIS	Corresponding classification (PS)
Primary circuits declared by manufacturer	PS3
-48V line	PS3
+ 5V line	PS2
USB circuits and External circuit transient voltage Table 14, ID 1	PS1
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component	
Glycol	
Source of hazardous substances	Corresponding chemical
Coin battery	Batteries and their protection circuits
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit	
MS2	
Source of kinetic/mechanical energy	Corresponding classification (MS)
Sharp edges and corners	MS1
Fan motor	MS1
Equipment mass	MS2
Rack mounted equipment (Fixed in the rack)	MS2

Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	Corresponding classification (TS)
Metal enclosure <10s	TS1
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	Corresponding classification (RS)
Indicating lights and low power devices	RS1

ENERGY SOURCE DIAGRAM

Indicate which energy sources are included in the energy source diagram. Insert diagram below

■ ES ■ PS ■ MS ■ Chemical Hazard ■ TS ■ RS

ES Classification, PS Classification

All primary circuits in red line: ES3, PS3

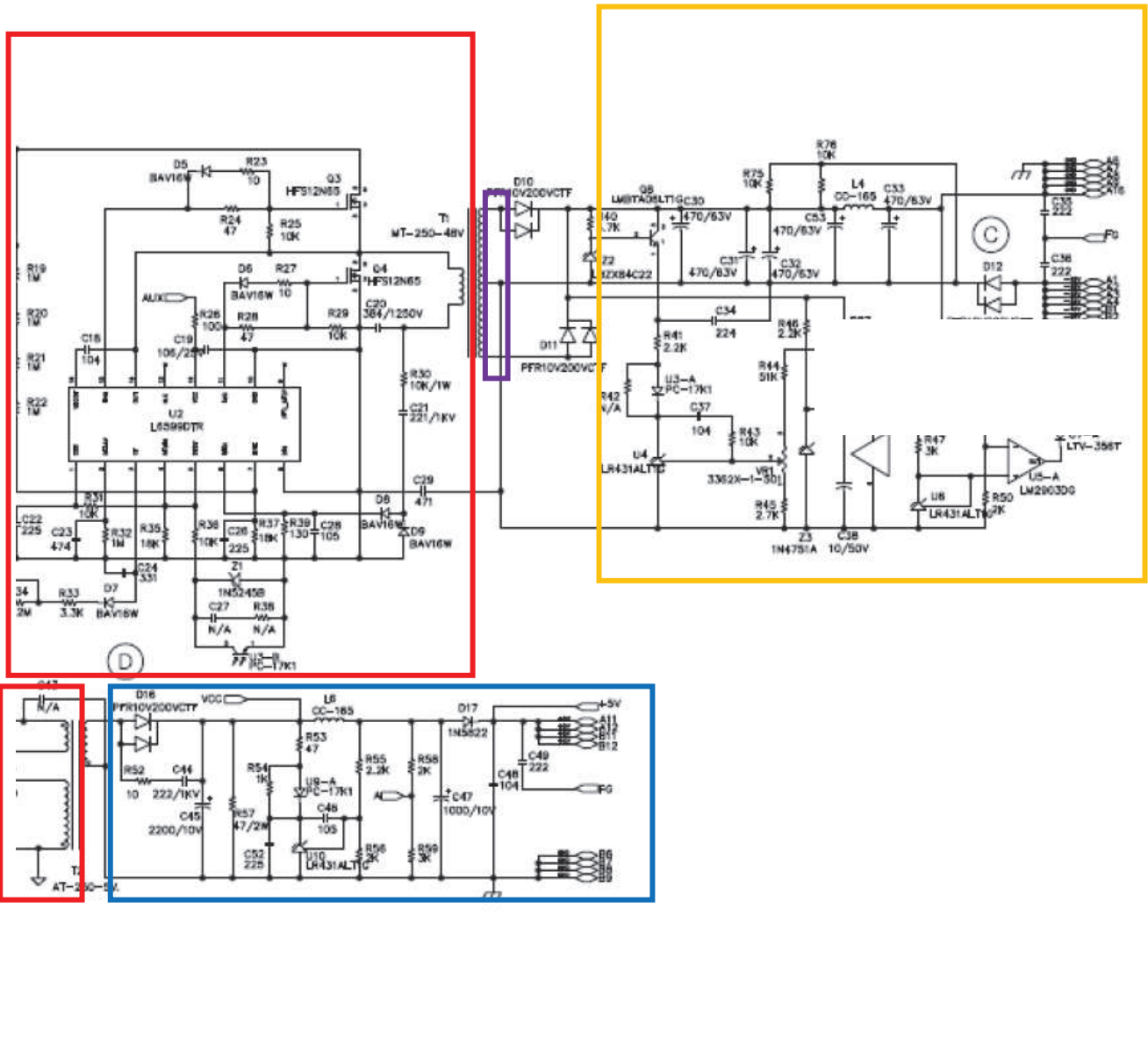
T1 out put to D10 anode in purple line: ES2, PS3

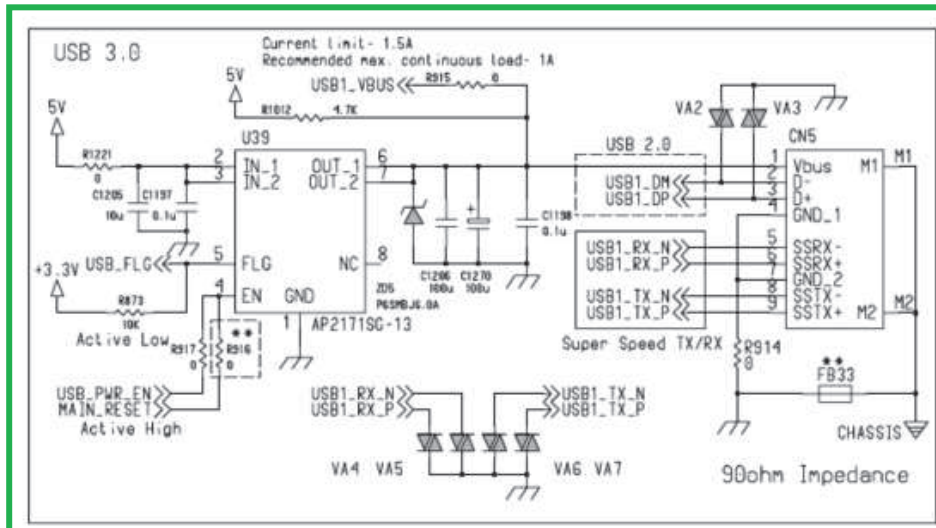
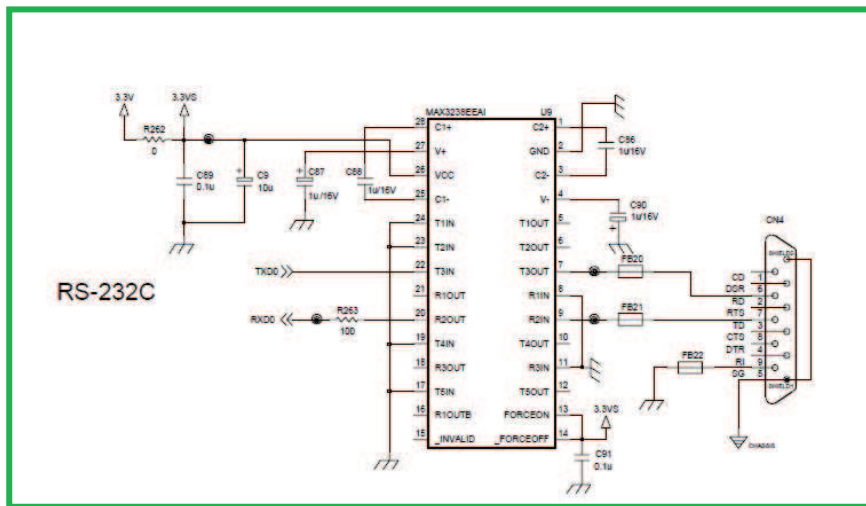
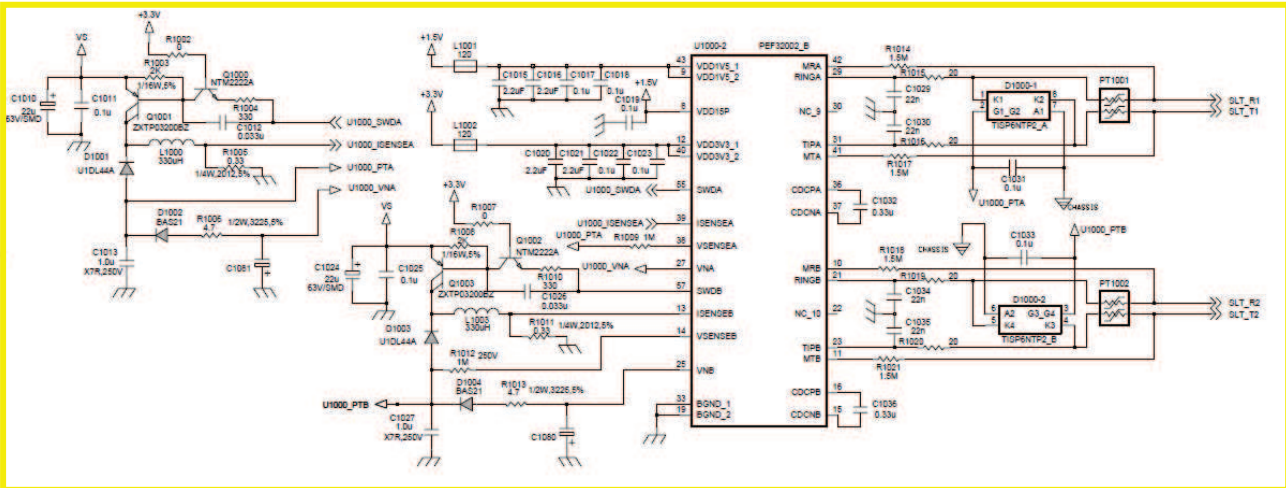
-48V line in orange line: ES1,PS3

5V line in blue line:ES1, PS2

External circuit transient voltage Table 14, ID 1 in Yellow line: ES2, PS1

The signal input/output terminals in Green line : ES1, PS1.





Chemical Hazard:

Li-ion Coin Battery

MS classification:

MS1: There are no sharp edges or corners.

MS2: Equipment mass

MS1: Fan motor

MS2: Rack mounted

TS classification:

TS1: All accessible parts

RS classification:

LED indicator : RS1

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementar y	Reinforced (Enclosure)
Instructed person person	ES3: primary circuit	N/A	N/A	Enclosure Transformer, optocoupler, Y-capacitor
Instructed person person	ES2: External circuit transient voltage Table 14, ID 1	N/A	N/A	N/A
Instructed person person	ES2: T1 secondary out put to anode of D10	N/A	N/A	N/A
Instructed person person	ES1: All secondary circuits except for above	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source	Safeguards		
		Basic	Supplementar y	Reinforced
All combustible materials at Primary circuits	PS3: All circuits	No ignition occurs and temperature value not greater than 90 % of the ignition temperature limit,	Complied clause 6.4.5	Fire enclosure
-48V line at secondary circuits	PS3: All circuits	Complied clause 6.4.5	Complied clause 6.4.5	Fire enclosure
+ 5V line circuits	PS2: >100 Watt circuit	Complied clause 6.4.5	Complied clause 6.4.5	N/A
External circuit transient voltage Table 14, ID 1, USB, Signal terminal	PS1: <15W	N/A	N/A	N/A

7.1		Injury caused by hazardous substances		
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
Instructed person person	Coin battery	N/A	N/A	See Annex M
8.1		Mechanically-caused injury		
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Instructed person person	MS1: Sharp edges and corners	N/A	N/A	N/A
Instructed person person	MS1: Fan motor	N/A	N/A	N/A
Instructed person person	MS2: Equipment mass	Complied clause 8.6.2.2	N/A	N/A
Instructed person person	MS2: Rack mounted (Not SRME)	N/A	N/A	N/A
9.1		Thermal Burn		
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Instructed person person	TS1: Accessible metal	N/A	N/A	N/A
10.1		Radiation		
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Instructed person person	RS1: Indicating Lights	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. See also Annex G	P
4.1.3	Equipment design and construction	No accessible part which could cause injury	P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness	See below.	P
4.4.4.2	Steady force tests.....:	(See Annex T.2 and T.3)	P
4.4.4.3	Drop tests.....:	Movable equipment but handled by instructed and skilled person.	N/A
4.4.4.4	Impact tests.....:	No such consideration for this building-in type equipment.	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:	No internal safe guard	N/A
4.4.4.6	Glass Impact tests.....:	No such glass used.	N/A
4.4.4.7	Thermoplastic material tests.....:	Front Enclosure	P
4.4.4.8	Air comprising a safeguard.....:	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness	No damaged.	P
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard	The conductors will be connected by pluggable connector or wire terminals.	P
4.6.2	10 N force test applied to.....:	See appended table 5.4.2.2, 5.4.2.4 and 5.4.3	P
4.7	Equipment for direct insertion into mains socket - outlets	The EUT is not for direct insertion into mains socket-outlets	N/A
4.7.2	Mains plug part complies with the relevant standard.....:	See above	N/A
4.7.3	Torque (Nm).....:	See above	N/A
4.8	Products containing coin/button cell batteries	Professional equipment	N/A
4.8.2	Instructional safeguard		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery	See above	—
4.8.4	Battery Compartment Mechanical Tests	See above	N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....	(See annex P)	P

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications.....	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current.....	(See appended table 5.2)	P
5.2.2.3	Capacitance limits	(See sub-clause 5.5.2.2)	P
5.2.2.4	Single pulse limits	No such single pulses generated in the EUT or applied to it.	N/A
5.2.2.5	Limits for repetitive pulses	No such repetitive pulses within the EUT	N/A
5.2.2.6	Ringling signals	ES2	P
5.2.2.7	Audio signals	No such audio signals	N/A
5.3	Protection against electrical energy sources	See only 4.3 and 5.4 to 5.6 which applies to protection between the accessible output and hazardous parts of other circuits.	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards	ES3 source cannot accessed by instructed persons. Double or reinforced safeguard is provided between ES3 and instructed persons.	P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V	The test probe cannot accessed the hazardous live part	P
	b) Electric strength test potential (V)	air gap >>10mm	P
	c) Air gap (mm)		N/A
5.3.2.4	Terminals for connecting stripped wire	No such terminal	N/A
5.4	Insulation materials and requirements		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.2	Properties of insulating material	The choice and application have taken into account as specified in this Clause 5 and Annex T except natural rubber, hygroscopic materials or asbestos are not used as insulation.	P
5.4.1.3	Humidity conditioning	(See sub-clause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degree	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied. No insulating compound applied (however see 5.5.4).	N/A
5.4.1.5.3	Thermal cycling	See above	N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer within the EUT	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses within the EUT	N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces	No such accessible surfaces within the equipment.	N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	See only 5.4.10.3 below.	P
5.4.1.10.2	Vicat softening temperature		N/A
5.4.1.10.3	Ball pressure	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See only appended table)	N/A
5.4.2.3	Determining clearance using required withstand voltage	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
	a) a.c. mains transient voltage	2500V for Overvoltage Cat. II	—
	b) d.c. mains transient voltage	No such transient	—
	c) external circuit transient voltage	External circuit transient voltage Table 14, ID 1	—
	d) transient voltage determined by measurement :	No such transient	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Using procedure 2 to determine the clearance according to 5.4.2.3.	N/A
5.4.2.5	Multiplication factors for clearances and test voltages	(See only appended tables) Specified the equipment to be operated up to 2000m above sea level.	N/A
5.4.3	Creepage distances	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.3.1	General		P
5.4.3.3	Material Group	IIIa&IIIb	—
5.4.4	Solid insulation	See below	P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation	See only 5.4.4.4 regarding optocoupler	P
5.4.4.4	Solid insulation in semiconductor devices	Approved optocoupler used. See table 4.1.2 for listed component used.	P
5.4.4.5	Cemented joints	No such construction within the EUT	N/A
5.4.4.6	Thin sheet material	See below	P
5.4.4.6.1	General requirements	Two layers of insulation tape in transformer	P
5.4.4.6.2	Separable thin sheet material		P
	Number of layers (pcs)	Where 3 layers are provided as reinforced insulation any 2 of 3 layers passed the electric strength test for reinforced insulation	P
5.4.4.6.3	Non-separable thin sheet material	No such device within the EUT	N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material	No such device within the EUT	N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	See G.5	P
5.4.4.9	Solid insulation at frequencies >30 kHz	No such insulation at frequencies \geq 30 kHz was considered.	N/A
5.4.5	Antenna terminal insulation	No such antenna terminal used.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (M Ω).....		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard	No such insulation of internal wire as part of supplementary safeguard.	N/A
5.4.7	Tests for semiconductor components and for cemented joints	No tests necessary –see only 5.4.4.4.	N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%).....	95%	—
	Temperature (°C)	30°C	—
	Duration (h)	48h	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.9.1	Test procedure for a solid insulation type test	Compliance was checked immediately following temperature test in 5.4.1.4 and on a sample of the transformer raised to the relevant temperature as measured during that test.	P
5.4.9.2	Test procedure for routine tests	No routine tests considered. To be considered during the relevant national approval.	N/A
5.4.10	Protection against transient voltages between external circuit		P
5.4.10.1	Parts and circuits separated from external circuits		P
5.4.10.2	Test methods		P
5.4.10.2.1	General		P
5.4.10.2.2	Impulse test	1.5 kV	P
5.4.10.2.3	Steady-state test.....	1.0 kV	P
5.4.11	Insulation between external circuits and earthed circuitry	Stationary pluggable equipment type A and installed restricted access area. Protective Earthing Conductor is provided with instructions for the installation.	P
5.4.11.1	Exceptions to separation between external circuits and earth	Stationary equipment and installed by skilled person for protective earthing connection.	P
5.4.11.2	Requirements	See above	N/A
	Rated operating voltage U_{op} (V).....		—
	Nominal voltage U_{peak} (V).....		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		
5.5.1	General	See the following details.	P
5.5.2	Capacitors and RC units	Approved X and Y capacitors provided. See G.11.1.	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See Annex G.12)	P
5.5.5	Relays	No such component provided	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	Resistors	Bleeder resistors are served as safeguard but not across basic, supplementary or reinforce insulations, see clause 5.4.2, 5.4.3	N/A
5.5.7	SPD's	Approved varistor used.	P
5.5.7.1	Use of an SPD connected to reliable earthing		P
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable.....:	No such external circuits.	N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements	An appliance coupler	P
5.6.2.2	Colour of insulation		P
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm ²)	0.75 mm ²	—
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm ²).	0.75 mm ²	—
	Protective current rating (A)	16A	—
5.6.4.3	Current limiting and overcurrent protective devices	Fuse is not connected in parallel with other components	P
5.6.5	Terminals for protective conductors		P
5.6.5.1	Requirement		P
	Conductor size (mm ²), nominal thread diameter (mm).	0.75mm ² , 3.5mm	P
5.6.5.2	Corrosion	All safety earthing connections in compliance with Annex N.	P
5.6.6	Resistance of the protective system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method Resistance (Ω).....:	See table 5.6.6.2	P
5.6.7	Reliable earthing		P
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks	Figure 4 of IEC 60990 was used in determining of the limit of ES1.	P
5.7.2.1	Measurement of touch current	(See appended table 5.7.2.2, 5.7.4)	P
5.7.2.2	Measurement of prospective touch voltage		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	Equipment set-up, supply connections and earth connections	Clause 4, 5.3 and 5.4 of IEC 60990:1999 applied.	P
	System of interconnected equipment (separate connections/single connection)	Single equipment.	—
	Multiple connections to mains (one connection at a time/simultaneous connections)	Single connection.	—
5.7.4	Earthed conductive accessible parts	(See appended table 5.7.2.2, 5.7.4)	P
5.7.5	Protective conductor current	Not exceed 5 % of the limit	N/A
	Supply Voltage (V).....		—
	Measured current (mA).....		—
	Instructional Safeguard.....		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		P
5.7.6.1	Touch current from coaxial cables	No coaxial circuits.	N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		P
5.7.7	Summation of touch currents from external circuits		P
	a) Equipment with earthed external circuits Measured current (mA).....	earthed external circuits, see page 3 for instructional safeguard according to 5.7.5	P
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA)		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	P
6.2.2.1	General	See the following details.	P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault	(See appended table 6.2.2)	P
6.2.2.4	PS1	(See appended table 6.2.2)	P
6.2.2.5	PS2	(See appended table 6.2.2)	P
6.2.2.6	PS3	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources	See the following details.	P
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	(See appended table 5.4.1.5) No ignition and no such temperature attained within the equipment.	P
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		N/A
6.4.1	Safeguard Method	Method by control of fire spread applied.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions		N/A
	Special conditions for temperature limited by fuse	No such consideration.	N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits	Compliance detailed as follows: - Printed board: rated min. V-1 - Wire insulation (tubing): complying with Clause 6 (See Table 4.1.2 for tubing used). - All other components: at least V-2 except for mounted on min. V-1 material or small parts of combustible material. - Isolating transformer: complying with G.5.3.	P
6.4.5.2	Supplementary safeguards	(See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuit	Compliance detailed as follows: - Parts as in 6.4.5 above - Fire enclosure	P
6.4.7	Separation of combustible materials from a PIS		P
6.4.7.1	General	Metal Fire enclosure is provided	P
6.4.7.2	Separation by distance	All components and combustible materials other than small parts are mounted on material with rated min. V-1.	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.7.3	Separation by a fire barrier	No fire barrier	N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.1	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier	N/A
6.4.8.2.2	Requirements for a fire enclosure	Metal and V-0 fire enclosure	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)	No openings.	N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)	Side openings comply with the the distance from PIS, Bottom : mesh with 1.3 mm circles	P
	Flammability tests for the bottom of a fire enclosure	See above	N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)	No such door or cover	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating	Metal and V-0 fire enclosure	P
6.5	Internal and external wiring		P
6.5.1	Requirements		P
6.5.2	Cross-sectional area (mm ²)	The material of VW-1 on internal or external wiring were considered compliance equivalent to IEC 60332 or IEC/TS 60695-11-21 relevant standards.	—
6.5.3	Requirements for interconnection to building wiring	No such interconnection to building wiring.	N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1		P

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Clause	Requirement + Test	Result - Remark	Verdict

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		P
7.2	Reduction of exposure to hazardous substances	No hazardous chemicals within the equipment.	P
7.3	Ozone exposure	No ozone production within the equipment.	N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)		—
7.6	Batteries.....	(See annex M)	P

8	MECHANICALLY-CAUSED INJURY		P
8.1	General	See the following details.	P
8.2	Mechanical energy source classifications	Sharp edges and corners, classified as MS1 Equipment mass, 7 kg < 15.4 kg < 25 kg, classified as MS2 Fan motor MS1	P
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	Accessible edges and corners of the equipment are rounded and are classified as MS1	P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	Fan motor MS1	P
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment	Not such equipment	N/A
8.5.4.2	Equipment having electromechanical device for destruction of media	Not such equipment	N/A
8.5.4.2.1	Safeguards and Safety Interlocks	Not such equipment	N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard	Not such equipment	—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)	Not such equipment	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.5	High Pressure Lamps	No Lamps	N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....:	No Lamps	N/A
8.6	Stability		P
8.6.1	Product classification	MS2	P
	Instructional Safeguard.....:		—
8.6.2	Static stability		P
8.6.2.2	Static stability test		P
	Applied Force	31N	—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt.....:		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....:		N/A
	Position of feet or movable parts		—
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force		N/A
8.8	Handles strength	No Handle	N/A
8.8.1	Classification		N/A
8.8.2	Applied Force	No Handle	N/A
8.9	Wheels or casters attachment requirements	No Wheels or casters	N/A
8.9.1	Classification		N/A
8.9.2	Applied force	No Wheels or casters	—
8.10	Carts, stands and similar carriers	No carts, stand and carrier	N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....:	No carts, stand and carrier	—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force	No carts, stand and carrier	—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)	No carts, stand and carrier	—
8.10.6	Thermoplastic temperature stability (°C).....:	No carts, stand and carrier	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.11	Mounting means for rack mounted equipment		P
8.11.1	General	Equipment fixed in the rack	P
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable N	Equipment fixed in the rack	N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas	No such parts	N/A
	Button/Ball diameter (mm)	No such parts	—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	All accessible surfaces are classified as TS1, see appended table 5.4.1.4, 6.3.2, 9.0, B.2.6.	P
9.3	Safeguard against thermal energy sources		P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard	See above	N/A

10	RADIATION		P
10.2	Radiation energy source classification		P
10.2.1	General classification	LED Indicator RS1	P
10.3	Protection against laser radiation	No such radiation generated from the equipment.	N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault		
	Instructional safeguard		—
	Tool		—
10.4	Protection against visible, infrared, and UV radiation	No such radiation generated from the equipment.	N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons		N/A
10.4.1.b)	RS3 accessible to a skilled person		N/A
	Personal safeguard (PPE) instructional safeguard		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 ..		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.4.1.f)	UV attenuation.....:		N/A
10.4.1.g)	Materials resistant to degradation UV.....:		N/A
10.4.1.h)	Enclosure containment of optical radiation.....:		N/A
10.4.1.i)	Exempt Group under normal operating conditions.....:		N/A
10.4.2	Instructional safeguard.....:		N/A
10.5	Protection against x-radiation	No such x-radiation generated from the equipment	N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards.....:		N/A
	Instructional safeguard for skilled person..... :		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation.....:		—
	Abnormal and single-fault condition..... :		N/A
	Maximum radiation (pA/kg).....:		N/A
10.6	Protection against acoustic energy sources	Not such equipment.	N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards..... :		N/A
	Equipment safeguard prevent ordinary person to RS2..... :		—
	Means to actively inform user of increase sound pressure..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Maximum dB(A)..... :		—
B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions	See the following details.	P
B.2.1	General requirements..... :	(See summary of testing and appended table)	P
	Audio Amplifiers and equipment with audio amplifiers	No audio amplifier	N/A
B.2.3	Supply voltage and tolerances	Tolerance: +10%, -10 % installed by service man and restricted situation.	P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... :	(See appended table B.3&B.4)	P
B.3.2	Covering of ventilation openings		P
B.3.3	D.C. mains polarity test	The EUT is not connected to a D.C. mains	N/A
B.3.4	Setting of voltage selector	No setting of voltage selector within the EUT	N/A
B.3.5	Maximum load at output terminals	The output terminals are connected by manufacturer instruction	P
B.3.6	Reverse battery polarity	See annex M	P
B.3.7	Abnormal operating conditions as specified in Clause E.2.	Not such equipment.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effective.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited	No such device used.	N/A
B.4.3	Motor tests		P
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature	(See appended table B.3 & B.4)	P
B.4.4	Short circuit of functional insulation	See the following details.	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.3 & B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3 & B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards within the EUT	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.3 & B.4 for faults on electronic components)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.3 & B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	No change to circuits classified in 5.3.	P
B.4.9	Battery charging under single fault conditions ... :	See clause M	P
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation	No such UV generated from the equipment.	N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus	See above.	N/A
D	TEST GENERATORS		P
D.1	Impulse test generators		P
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V)	No Audio amplifier	—
	Rated load impedance (Ω)	No Audio amplifier	—
E.2	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements	See the following details.	P
	Instructions – Language	English	—
F.2	Letter symbols and graphical symbols	See the following details.	P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1.	P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Equipment marking is located on enclosure and is easily visible.	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	IPECS	—
F.3.2.2	Model identification	See marking plate	—
F.3.3	Equipment rating markings	See the following details.	P
F.3.3.1	Equipment with direct connection to mains	The equipment is connected to AC mains supply.	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage.....	IEC60417-5032(2002-10)	—
F.3.3.4	Rated voltage	100-240 V	—
F.3.3.4	Rated frequency	50/60 Hz	—
F.3.3.6	Rated current or rated power	4 A	—
F.3.3.7	Equipment with multiple supply connections	Only one supply connection.	N/A
F.3.4	Voltage setting device	Auto range and no voltage selector provide within the equipment.	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings.....	No mains outlet	N/A
F.3.5.2	Switch position identification marking	I and O	P
F.3.5.3	Replacement fuse identification and rating markings.....	The fuse is located in appliance inlet and not replaceable by an ordinary person or an instructed person. The fuse marked in the enclosure beside inlet and PCB, T6.3 A L250 V and F1 T10A L250V.	P
F.3.5.4	Replacement battery identification marking	At the installation manual CAUTION Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.	P
F.3.5.5	Terminal marking location	See markings specified in F.3.6.1 and F.3.6.2.2 is not placed on removable parts such as screws.	P
F.3.6	Equipment markings related to equipment classification	See the following details.	P
F.3.6.1	Class I Equipment	See the following details.	P
F.3.6.1.1	Protective earthing conductor terminal	Appliance inlet	P
F.3.6.1.2	Neutral conductor terminal		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1.3	Protective bonding conductor terminals		P
F.3.6.2	Class II equipment (IEC60417-5172)	The equipment is a Class I	N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking	This equipment is classified as IPX0	—
F.3.8	External power supply output marking	No external power supply	N/A
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test, 15 sec. for water and 15 sec. for petroleum spirit. After each test, the marking remained legible.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking	The accessibility of equipment was evaluated by using test probe of Figure V.2	N/A
	b) Instructions given for installation or initial use	Relevant safety caution texts and installation instruction are available	P
	c) Equipment intended to be fastened in place		P
	d) Equipment intended for use only in restricted access area		P
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	No such terminals provided.	N/A
	f) Protective earthing employed as safeguard	Installation manual	P
	g) Protective earthing conductor current exceeding ES2 limits	Not exceeding the limit	N/A
	h) Symbols used on equipment	No such specific symbols considered.	N/A
	i) Permanently connected equipment not provided with all-pole mains switch	not a permanently connected equipment	N/A
	j) Replaceable components or modules providing safeguard function	The required information for fuse are marked adjacent to the fuse (see F.3.5.3 for details)	P
F.5	Instructional safeguards	No instructional safeguard is considered as necessary	N/A
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction	No instructional safeguard required in the equipment	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General requirements	See appended table 4.1.2	P
G.1.2	Ratings, endurance, spacing, maximum load		P
G.2	Relays		N/A
G.2.1	General requirements	No relay in a PS3	N/A
G.2.2	Overload test	See above	N/A
G.2.3	Relay controlling connectors supply power	See above	N/A
G.2.4	Mains relay, modified as stated in G.2	See above	N/A
G.3	Protection Devices		P
G.3.1	Thermal cut-offs	No thermal cut-off provided within the equipment	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)	See above	N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)	See above	N/A
G.3.1.2	Thermal cut-off connections maintained and secure	See above	N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No thermal link as safety guard	N/A
G.3.2.1b)	Thermal links tested as part of the equipment	See above	N/A
	Aging hours (H)	See above	—
	Single Fault Condition	See above	—
	Test Voltage (V) and Insulation Resistance (Ω) . :	See above	—
G.3.3	PTC Thermistors	No PTC thermistor	N/A
G.3.4	Overcurrent protection devices	Overcurrent protection device IEC 60127 approved	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		P
G.3.5.1	Non-resettable devices suitably rated and marking provided	See appended table 4.1.2 for fuse at optional board	P
G.3.5.2	Single faults conditions.....:	(See appended Table B.4)	P
G.4	Connectors		P
G.4.1	Spacings	Connector for ES2	P
G.4.2	Mains connector configuration	Certified connector	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No other connectors likely to be removed by instructed person where mismatch could occur	P
G.5	Wound Components		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.1	Wire insulation in wound components.....	No wire insulation in wound component	N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)		—
	Temperature (°C)		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	P
	Position.....	T1 , T2	—
	Method of protection	See G.5.3.3.	—
G.5.3.2	Insulation	Primary windings and secondary windings are separated by Reinforced insulation (The core is considered as primary part as it is not isolated from Primary)	P
	Protection from displacement of windings.....	The end-turn of each winding is fixed by insulating tape	—
G.5.3.3	Overload test	(See appended table B.3 & B.4)	P
G.5.3.3.1	Test conditions	Tested in the complete equipment as an SMPS.	P
G.5.3.3.2	Winding Temperatures testing in the unit	(See appended table B.3&B.4)	P
G.5.3.3.3	Winding Temperatures - Alternative test method	Alternative test method was not considered.	N/A
G.5.4	Motors		P
G.5.4.1	General requirements	Fan motor	P
	Position	See appended table 4.1.2	—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		P
G.5.4.6.2	Tested in the unit		P
	Maximum Temperature	(See appended table B3&B4)	P
	Electric strength test (V)	Not exceed ES1	N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage	No Series motor	—
G.6	Wire Insulation		N/A
G.6.1	General	No wire insulation	N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		P
G.7.1	General requirements		P
	Type	Detachable power supply cord	—
	Rated current (A)	4 A	—
	Cross-sectional area (mm ²), (AWG)	Min. 0.75 mm ²	—
G.7.2	Compliance and test method	See above	P
G.7.3	Cord anchorages and strain relief for non- detachable power supply cords	Detachable power supply cord	N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements		P
G.8.2	Safeguard against shock		P
G.8.3	Safeguard against fire (The method of control fire spread used, fire enclosure will be provided in end system)		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No IC current limiter provided within the equipment.	N/A
G.9.1 b)	Limiters do not have manual operator or reset	See above.	N/A
G.9.1 c)	Supply source does not exceed 250 VA	See above.	—
G.9.1 d)	IC limiter output current (max. 5A)	See above.	—
G.9.1 e)	Manufacturers' defined drift	See above.	—
G.9.2	Test Program 1	See above.	N/A
G.9.3	Test Program 2	See above.	N/A
G.9.4	Test Program 3	See above.	N/A
G.10	Resistors		N/A
G.10.1	General requirements		N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		P

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Clause	Requirement + Test	Result - Remark	Verdict
G.11.1	General requirements	(see appended table 4.1.2) X2 Capacitor as Basic safeguard and Y1-capacitor used as Reinforced safeguard both complied with IEC/EN 60384-14.	P
G.11.2	Conditioning of capacitors and RC units	All capacitors complied as environmental category at least 40/110/21 (21 days humidity) or 30/125/56 (56 days humidity) and in any case at 40°C	P
G.11.3	Rules for selecting capacitors	The selection followed with tables G.9 and G.12. Y1 capacitor bridging Reinforced insulation with rated voltage at least 250V tested with impulse 8kV peak and 4kV rms	P
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....:		N/A
	Type test voltage Vini		—
	Routine test voltage, Vini,b		—
G.13	Printed boards		P
G.13.1	General requirements	See the following details.	P
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board or over the outer surface of coated printed boards complied with the minimum clearance and creepage requirements	P
G.13.3	Coated printed boards	No coated printed board or multilayer board applied for within the equipment.	N/A
G.13.4	Insulation between conductors on the same inner surface	See above.	N/A
	Compliance with cemented joint requirements (Specify construction).....:	See above.	—
G.13.5	Insulation between conductors on different surfaces	See above.	N/A
	Distance through insulation	See above.	N/A
	Number of insulation layers (pcs)	See above.	—
G.13.6	Tests on coated printed boards	See above.	N/A
G.13.6.1	Sample preparation and preliminary inspection	See above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.6.2a)	Thermal conditioning	See above.	N/A
G.13.6.2b)	Electric strength test	See above.	N/A
G.13.6.2c)	Abrasion resistance test	See above.	N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements	No coating on component terminals considered to affect creepage or clearances.	N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements	No such device provided within the equipment.	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	No such ICX provided within the equipment.	N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		P
H.1	General		P
H.2	Method A		N/A
H.3	Method B		P
H.3.1	Ringling signal		P

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Clause	Requirement + Test	Result - Remark	Verdict
H.3.1.1	Frequency (Hz)	20 Hz (Tip-Ring), 20 Hz (Tip –GND) 20.2 Hz (Ring –GND)	—
H.3.1.2	Voltage (V)	125 Vpk(Tip-Ring), 65Vpk(Tip-GND), 82 Vpk(Ring-GND)	—
H.3.1.3	Cadence; time (s) and voltage (V)	2.9 sec., less than 60 Vdc(Tip-Ring), 2.88 sec., less than 60Vdc (Tip –GND) 2.9 sec., less than 60Vdc (Ring – GND)	—
H.3.1.4	Single fault current (mA):.....		—
H.3.2	Tripping device and monitoring voltage	Neither a tripping device nor a monitoring voltage is required. Current measured through 500 ohm is 60 mA	P
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		P
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)	A voltage to GND on the tip or ring conductor with a magnitude of at least 19 V peak, but not exceeding DC 56.5 V, whenever the ringing voltage is not present(Idle state)	—
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
	General requirements		N/A
K	SAFETY INTERLOCKS		N/A
K.1	General requirements	No safety interlock provided within the equipment.	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	Appliance coupler	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources	Only one a.c. mains connection.	N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		P
M.1	General requirements	CAUTION Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.	P
M.2	Safety of batteries and their cells	Coin battery	N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) .. :		N/A
M.3	Protection circuits		P
M.3.1	Requirements		P
M.3.2	Tests		P
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		P
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		P
M.3.3	Compliance	No hazard	P
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature		—
M.4.2.2 b)	Single faults in charging circuitry		—

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Clause	Requirement + Test	Result - Remark	Verdict
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying	Stationary Equipment	N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current	Coin battery	N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method)		N/A
M.6.2	Leakage current (mA)		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries	Coin battery	N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume Vz (m ³ /s).....		—
M.8.2.3	Correction factors		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage	Coin battery	N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)	See installation manual	P
N	ELECTROCHEMICAL POTENTIALS		P
	Metal(s) used	Metal enclosure: CR steel Screw: mild steel	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Figures O.1 to O.20 of this Annex applied	Considered.	—
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		P
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object		N/a
	Location and Dimensions (mm)		—
P.2.3	Safeguard against the consequences of entry of foreign object		P
P.2.3.1	Safeguards against the entry of a foreign object		P
	Openings in transportable equipment	Size and design prevents foreign objects from entering and falling on parts operating at PIS. Side openings comply with the 5-degree angle projection. Requirements for fire enclosure considered.	P
	Transportable equipment with metalized plastic parts	No Transportable equipment	N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard)		N/A
P.3	Safeguards against spillage of internal liquids	No such liquids.	N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts	No such construction.	N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C)		—
	Tr (°C)		—
	Ta (°C)		—
P.4.2 b)	Abrasion testing		N/A
P.4.2 c)	Mechanical strength testing		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1 a)	Inherently limited output		P
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		P
Q.2	Test for external circuits – paired conductor cable	No such circuit for connection to the EUT	N/A
	Maximum output current (A)		—
	Current limiting method		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements	No such consideration.	N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)).	See above.	N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (test condition), (°C)		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements		P
T.2	Steady force test, 10 N	(See appended table T.2)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N	(See appended table T5)	P
T.6	Enclosure impact test		P
	Fall test		P
	Swing test		N/A
T.7	Drop test	Rack mounted equipment	N/A
T.8	Stress relief test.....	Front enclosure	P
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J)		—
	Height (m)		—
T.10	Glass fragmentation test.....	No glass	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
T.11	Test for telescoping or rod antennas	No such antennas provided within the equipment.	N/A
	Torque value (Nm)	See above.	—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements	No CRT provided within the equipment.	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs	See above.	N/A
U.3	Protective Screen.....	See above.	N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment		P
V.2	Accessible part criterion		P

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
4.1.2	TABLE: list of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹
Power supply cord (molded-on fittings)	Longwell Co.	Plug: LP-33 Cord: H05VV-F Connector: LS13L	AC 250 V, 16 A. 3G 0.75 mm ² . AC 250 V, 10 A	DIN VDE 0625 Tell 1, IEC60799	VDE
Alternate	Taiwan Line-Tek Electronic Co., Ltd.	Plug: LP-33, Cord: H05VV-F Connector: LS60	AC 250 V, 16 A. 3G 0.75 mm ² . AC 250 V, 10 A	DIN VDE 0625 Tell 1, IEC60799	VDE
- Description:	All power cord and plug assemblies provided with the unit would be certified and suitable for use in the applicable countries.				
Enclosure	Interchangeable	Metal	Min 1.0 mm thick	IEC 62368-1	Tested in appliance
- Description	Interchangeability based on specified ratings and dimensions				
Printed wiring board	Interchangeable	Interchangeable	Min V-1, 105 °C	UL796	UL
- Description	Interchangeability based on specified ratings and dimensions				
Wiring, internal (Secondary)	Interchangeable	Interchangeable	Style 1007, FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; min 80 °C	UL758	UL
- Description	Interchangeability based on specified ratings and dimensions				
Power supply, KOSYSTEK, WAP-IPECS250, Input: AC 100-240 V, 4.0 A, 50/60 Hz. Output: -48 Vdc, 5.3 A / +5 Vdc, 1.0 A					
Top Case	Interchangeable	Metal	Overall 178 by 209 mm. Min. 1.2 mm thick. Secured by screws.	IEC 62368-1	Tested in appliance
Bottom Case	Interchangeable	Metal	Overall 179.1 by 226.7 mm. Min. 1.2 mm thick.	IEC 62368-1	Tested in appliance
Fuse (F1)	INALWAYS	0717-1-PQ	T10A L250 V	EN60320-1	VDE
Fuse in Appliance Inlet	ORISEL CO LTD	55T	250 V, 6.3 A	EN60127-1, EN60127-2	VDE
Power Switch	EVEREL GROUP SPA	SX82112811210 000	AC 250 V, 16 A.	EN61058-1	IMQ
AC Connector (CN1)	YEON HO ELECTRONICS CO LTD	YW396-03AV	600 V, 12 A, PA66	UL1977, UL94	UL (E108706)

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Varistor (ZN1)	CENTRA SCIENCE CORP	CNR14D-561K	560 V, (line-to line)	IEC61051	VDE
Varistor (ZN1) (ALT)	SAMWHA CAPACITOR CO LTD	SVC561D-14A	560 V, (line-to line)	IEC61051	VDE
Thermistor (RT1)	Interchangeable	Interchangeable	NTC, 240 V, I _{max} 3.8 A, 10 ohm at 25 °C	UL1434	UL
X-Capacitor (C1, C2)	CARLI ELECTRONICS CO LTD	MPX	Line-to- Line; 275 V, 0.47 uF. X2	IEC60384-14, EN132400	VDE
Alternate	PILKOR ELECTRONICS CO LTD	PCX2 335M	Line-to- Line; 275 V, 0.47 uF. X2	IEC60384-14, EN132400	VDE
Alternate	SUN IL ELECTRONICS INDUSTRY CO LTD	436D	Line-to- Line; 275 V, 0.47 uF. X2	IEC60384-14, EN132400	VDE
Line Filter (LF1, LF2)	JIN TECH	LF-250	Insulation system Class A. Core: 28 by 28 mm. Bobbin: PBT, Min. 130 deg.C. Base: Phenolic, Min. 130 deg.C. Coil: Polyurethane wire, Min. 130 deg.C.	IEC 62368-1	Tested in appliance
Relay (K1)	TYCO ELECTRONICS (SHENZHEN) CO. LTD	SDT-S-112DMR	Rated AC250V, 10 A, TV-8, Minimum Internal Clearance and Creepage distance 8.0 mm.	IEC61810-1, EN61810-1	SEMKO, TUV
Y-Capacitor (C3, C4, C5)	SAMWHA CAPACITOR CO LTD	SD	Line-to- Ground; 250 V, 2200 pF, Y-1	IEC60384-14, EN60384-14	VDE
Alternate	GUANGDONG SOUTH HONGMING ELECTRONIC SCIENCE AND TECHNOLOGY CO., LTD	F	Line-to- Ground; 250 V, 2200 pF, Y-1	IEC60384-14, EN60384-14	VDE

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Power Inductor (L2)	JIN TECH	PFPI-250A	Insulation system Class A. Open type construction. Core: Ferrite, size approx. 30 by 24 mm. Coils: Polyurethane enameled wire wound on bobbin. Bobbin phenolic, rated minimum V-0, Min. 130 deg.C. Insulation tape used, rated 130 °C.	IEC 62368-1	Tested in appliance
Inductor (L1)	JIN TECH	NI-250IR	180 uH. Class A.	IEC 62368-1	Tested in appliance
Bleed Resistor (R1)	Interchangeable	Interchangeable	680 kΩ	IEC 62368-1	Tested in appliance
Y-Capacitor (C29)	SAMWHA CAPACITOR CO LTD	SD	Line-to- Ground; 250 V, 470 pF, Y-1	IEC60384-14, EN60384-14	VDE
Alternate	GUANGDONG SOUTH HONGMING ELECTRONIC SCIENCE AND TECHNOLOGY CO., LTD	F	Line-to- Ground; 250 V, 470 pF, Y-1	IEC60384-14, EN60384-14	VDE
Optical isolators (U3, U9)	AUK CORP	PC-17K1	AC 5000 V isolation. Thermal cycling test / External Creepage Distance : 8.89mm.	IEC60950:2001	SEMKO

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Transformer (T1)	JIN TECH	MT-250R-48V	Insulation system Class A. Open type construction. Core: Ferrite, size approx. 39 by 44 mm. Coils: Polyurethane enameled wire wound on Split bobbin, phenolic, rated minimum V-0, Min. 130 deg.C. Insulation tape used, rated 130 °C.	IEC 62368-1	Tested in appliance
Transformer (T2)	JIN TECH	AT-250-5V	Insulation system Class A. Open type construction. Core: Ferrite, size approx. 28 by 20 mm. Coils: Polyurethane enameled wire wound on bobbin and triple insulated winding wire provided. Bobbin, phenolic, rated minimum V-0, Min. 130 deg.C. windings are separated by 3 turns polyester film tape, rated 130 °C.	IEC 62368-1	Tested in appliance
DC Fan	YOUNG LIN TECH CO LTD	DFS301005M	5 Vdc, 1.0 W or 5 Vdc, 0.2 A, 8000 RPM	EN60950-1	TUV
Alternate	YOUNG LIN TECH CO LTD	DFB301005M	5 Vdc, 0.9 W or 5 Vdc, 0.12 A, 8000 RPM	EN60950-1	TUV
Call server, UCP100/600/2400/UVM					
Enclosure	LG Chemical Ltd.	LUPOY GP-5008BF(#)	Min flame V-0, Min 1.5 mm thick	UL746C	UL (E67171)

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Fan	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	GM0501PDV2-8	5 Vdc, 0.12 A, Max 1.3 cfm	IEC60335, IEC60950-1	VDE
Alternate	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	MC20080V2(Y)	5 Vdc, 0.09 A, 0.45 Watt, 1.3 cfm.	IEC60335, IEC60950-1	VDE
Alternate	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	MF20080V2 series	5 Vdc, 0.068A, 12,000 rpm, 1.3 CFM	IEC60335, IEC60950-1	VDE
ConnectorCommunication (MJ3)	ARIN TECH CO.,LTD	657PGD8	RJ -45	UL1863, IEC60950-1	UL (E139474)
Alternate	KINSUN INDUSTRIES INC	3022 series	RJ -45	UL1863, IEC60950-1	UL (153135)
Alternate	DAE EUN ELECTRONICS CO LTD	DEK657PCB series	RJ -45	UL1863, IEC60950-1	UL (134225)
Relay (RL9) of UCP100	HANDOUK	BC2-5M	Contact 30 V, coil 5Vdc	IEC60255, IEC60730-2-10, IEC60947, IEC61810, IEC61811, IEC61812	VDE
Alternate	FUJITSUS	FTR-C1	Contact 30 V, coil 5 Vdc	IEC60255, IEC60730-2-10, IEC60947, IEC61810, IEC61811, IEC61812	VDE
Alternate	HANDOUK ELECTRONICS CO LTD	BC2-5N-R	Contact DC 30 V, 2A, Coil 5 Vdc	UL508, UL508B	UL (E197546)
USB Protection Component (U39)	DIODES INC	AP2171 series.	2.7 to 5.5 Vdc, 1.0 A, Prot. Current: 2.0 A	UL2367	UL (E322375)

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Battery (BAT1)	Panasonic Corporation Energy Company	CR-1632*	3 V, 140 mAh.	UL1642	UL (MH12210)
Battery Protection Component (R1117)	FILKOR ELECTRONICS CO LTD	ED1303-A3391-J 22	390 ohm,1/16W,J,16 08,R/TP	IEC 62368-1	Tested in appliance
Battery Protection Component (D17~D22, D35,D100~D103)	KEC (THAILAND) CO.,LTD.	KDS226-	SOT-23,85V,0.1A	IEC 62368-1	Tested in appliance
Alternate	AUK CORP	SDS7000	SOT-23,85V,0.2A,	IEC 62368-1	Tested in appliance
Battery Protection Component (D36)	AGILENT TECHNOLOGIE S	HSMS-2825-TR	SOT-143 ,15 V,1 A	IEC 62368-1	Tested in appliance
Transformer (T5)	YOUNGWOOTECH	YW2020	Class A	IEC 62368-1	Tested in appliance
Optical Isolator (U3)	Renesas Electronics Corporation or NEC Corporation	PS2561L-1	5000 Vac isolation	IEC60747-5, IEC60950-1, EN60950-1	VDE
Alternate	VISHAY INFRARED COMPONENT INC	ILD206T	3333 Vac	IEC60747-5, IEC60950-1, EN60950-1	VDE
Alternate	AUK Corp	PC-17K1	5000 Vac isolation	IEC60747-5, IEC60950-1, EN60950-1	VDE
Alternate	VISHAY Semiconductors	VO617A	5300 Vrms isolation	IEC60747-5, IEC60950-1, EN60950-1	VDE
Alternate	CHINA RESOURCES SEMICONDUCTOR(SHENZHEN) LIMITED	PC817x	5000 Vac isolation	IEC60747-5, IEC60950-1, EN60950-1	VDE
Transformer (T1-T4)	GCI TECHNOLOGIE S	G033021	Class A	IEC 62368-1	Tested in appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternate	A TECH TECHNOLOGY CO LTD	ATS-324A	Class A	IEC 62368-1	Tested in appliance
Relay (RL1-RL8) Of UCP600/2400	PANASONIC CORPORATION	AGQ200A4HZ	Contact 30 V, coil 4.5 Vdc	IEC60255, IEC60730-2-10, IEC60947, IEC61810, IEC61811, IEC61812	VDE
Alternate	Omron Corp	G6K-2F-Y-TR	Contact 30 V, coil 4.5 Vdc	IEC60255, IEC60730-2-10, IEC60947, IEC61810, IEC61811, IEC61812	VDE
Thermister (PT2001,PT2002) of UCP100	EPCOS OHG	B59635- T1120Ax	NTC/PTC, 230 V, 70 °C, rated trip current 230 mA	UL1434	UL (E69802)
Alternate	SEMITELELECTRONICS CO LTD	SCT350D	PTC, 220 V, 70 °C, rated trip current 230 mA	UL1434	UL (E305346)
Thermister of UCP100 COIU4 (PT1, PT2, PT3, PT4)	TYCO ELECTRONICS RAYCHEM CORPORATION	TSM600-250	NTC/PTC, 250 V, 85 °C, rated trip current 0.75 A.	UL1434	UL (E74889)
Isolated Loop Circuit Protectors of UCP100 COIU4 (D3, D13, D14, D6, D15, D16, D11, D17, D18, D12, D19, D20	LITTELFUSE TRIAD INC. /Teccor	P3100SBL	DO-214A ,275 V	UL497	UL (E133083)
Alternate	PROTEK DEVICES L P	PP3100SB	350 V, (line-to- line)	UL497	UL (E208219)
Transformer (T1, T2, T3, T4) in UCP-BRIU2, UCP-BRIU4 Board.	PULSE ELECTRONICS (SINGAPORE) PTE. LTD	T5049NL	OCL Pri. 30 mH Min. LL sec, 10 uH Max.	IEC 62368-1	Tested in appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Loop & Ground CO gateway Module UCP-LGCM4, UCP-LGCM8					
Enclosure	LG Chemical Ltd.	LUPOY GP-5008BF(#)	Min flame V-0, Min 1.5 mm thick	UL746C	UL (E67171)
Fan	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	GM0501PDV2-8	5 Vdc, 0.12 A, Max 1.3 cfm	IEC60950-1	VDE
Alternate	Sunonwealth Electric Machine Industry Co Ltd.	MC20080V2(Y)	5 Vdc, 0.09 A, 0.45 Watt, 1.3 cfm.	IEC60950-1	VDE
Alternate	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	MF20080V2 series	5 Vdc, 0.068A, 12,000 rpm, 1.3 CFM	IEC60335, IEC60950-1	VDE
Connector - Communication (MJ1)	ARIN TECH CO.,LTD	657PGD8	RJ -45	UL1863	UL (E139474)
Alternate	Kinsun Industries Inc.	3022 series	RJ -45	UL1863	UL (153135)
Alternate	WENZHOU YIHUA CONNECTOR CO LTD	59ABX2X3X4(5921)series	RJ -45	UL1863	UL (E166108)
Thermistor (PT451)	Tyco Electronics Raychem Corporation	RXE-F075-2	PTC, 72V, 85 deg C, rated Ih=0.75 A, It=1.5A.	UL1434	UL (E74889)
Alternate	POLYTRONICS TECHNOLOGY CORP	RLD72P075XF	PTC, 72 V, 85 °C, rated Ih=0.75 A, It=1.5 A.	UL1434	UL (E201431)
Optical Isolator (U453)	Renesas Electronics Corporation or NEC Corporation	PS2561L-1	5000 Vac isolation	UL1577	UL (E72422)
Alternate	Vishay Infrared Component Inc	ILD206T	3333 Vac	UL1577	UL (E52744)
Alternate	AUK Corp	PC-17K1	5000 Vac isolation	UL1577	UL (E107486)
Alternate	Vishay Semiconductors	VO617A	5300 Vrms isolation	UL1577	UL (E52744)
Alternate	CHINA RESOURCES SEMICONDUCTOR(SHENZHEN) LIMITED	PC817x	5000 Vac isolation	IEC60747-5, IEC60950-1, EN60950-1	VDE

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Thermister (PT701, PT702, PT751, PT752, PT801, PT802, PT851, PT872, PT901, PT902, PT951, PT952, PT1001, PT1002, PT1051, PT1052) for UCP-LGCM8, (PT901, PT902, PT951, PT952, PT1001, PT1002, PT1051, PT1052) for UCP-LGCM4	Tyco Electronics Raychem Corporation	TRF600-160	NTC/PTC, 250 V, 85 °C, rated trip current 0.64 A	UL1434	UL (E74889)
Isolated Loop Circuit Protectors (D700, D701, D702, D750, D751, D752, D800, D801, D802, D850, D851, D852, D900, D901, D902, D950, D951, D952, D1000, D1001, D1002, D1050, D1051, D1052) for UCP- LGCM8, (D900, D901, D902, D950, D951, D952, D1000, D1001, D1002, D1050, D1051, D1052) for UCP- LGCM4,	LITTELFUSE TRIAD INC. /Teccor	P3100SBL	DO-214A ,275 V	UL497	UL (E133083)
Single Line Telephone gateway Module, UCP-SLTM4, UCP-SLTM8					
Enclosure	LG Chemical Ltd.	LUPOY GP- 5008BF(#)	Min flame V-0, Min 1.5 mm thick	UL746C	UL (E67171)

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Fan	Sunonwealth Electric Machine Industry Co Ltd	GM0501PDV2-8	5 Vdc, 0.12 A, Max 1.3 cfm	IEC60335, IEC60950-1	VDE
Alternate	Sunonwealth Electric Machine Industry Co Ltd	MC20080V2(Y)	5 Vdc, 0.09 A, 0.45 Watt, 1.3 cfm.	IEC60335, IEC60950-1	VDE
Alternate	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	MF20080V2 series	5 Vdc, 0.068A, 12,000 rpm, 1.3 CFM	IEC60335, IEC60950-1	VDE
Connector - Communication (MJ2)	ARIN TECH CO.,LTD	657PGD8	RJ -45	UL1863	UL (E139474)
Alternate	KINSUN INDUSTRIES INC	3022 series	RJ -45	UL1863	UL (153135)
Alternate	WENZHOU YIHUA CONNECTOR CO LTD	59ABX2X3X4(5921)series	RJ -45	UL1863	UL (E166108)
Transformer (T451)	YOUNGWOOD TECH	YW1616S	Class A	IEC 62368-1	Tested in the equipment.
Alternate	SEJIN ELECCOM CO., LTD.	SJ1616	Class A	IEC 62368-1	Tested in the equipment.
Optical Isolator (U13)	Renesas Electronics Corporation or NEC Corporation	PS2561L-1	5000 Vac isolation	UL1577	UL (E72422)
Alternate	Vishay Infrared Component Inc	ILD206T	3333 Vac	UL1577	UL (E52744)
Alternate	AUK Corp	PC-17K1	5000 Vac isolation	UL1577	UL (E107486)
Alternate	VISHAY Semiconductors	VO617A	5300 Vrms isolation	UL1577	UL (E52744)
Alternate	CHINA RESOURCES SEMICONDUCTOR(SHENZHEN) LIMITED	PC817x	5000 Vac isolation	UL1577	UL (E465130)

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Thermister (PT2001,PT2002, PT2101,PT2102, PT2201,PT2202, PT2301,PT2302) for UCP-SLTM8,(PT2201,PT2202, PT2301,PT2302) for UCP-SLTM4	EPCOS OHG	B59635- T1120Ax (x is 00 to 99)	PTC, 230 Vac, Max. 70 deg.C, rated trip current 230 mA, 35 ohm, 6000 cycles	UL1434	UL (E69802)
Alternate	SEMITELELECTRONICS CO LTD	SCT350D	PTC, 220 Vac, Max. 70 deg.C, rated trip current 230 mA, 35 ohm, 6000 cycles	UL1434	UL (E305346)
Power over Ethernet Switching Hub, UCP-ES8G, UCP-ES8GP					
Enclosure	LG Chemical Ltd.	LUPOY GP- 5008BF(#)	Min flame V-0, Min 1.5 mm thick	UL746C	UL (E67171)
Fan	SunonwealthElec tric Machine Industry Co Ltd	GM0501PDV2-8	5 Vdc, 0.12 A, Max 1.3 cfm	IEC60335, IEC60950-1	VDE
Alternate	SunonwealthElec tric Machine Industry Co. Ltd	MC20080V2(Y)	5 Vdc, 0.09 A, 0.45 Watt, 1.3 cfm.	IEC60335, IEC60950-1	VDE
Alternate	SUNONWEALT H ELECTRIC MACHINE INDUSTRY CO LTD	MF20080V2 series	5 Vdc, 0.068A, 12,000 rpm,1.3 CFM	IEC60335, IEC60950-1	VDE
Transformer (T4, T5, T6, T7)	Bothhand Enterprise Inc	GS5014LF	48 PIN,SMD 1.5KV	IEC 62368-1	Tested in the equipment.
Transformer (T1) of ES8GP	Pulse Electronics (Singapore) Pte. Ltd	P0351NL	INDUCTOR, SMD,POWER, 1KV	IEC 62368-1	Tested in the equipment.
Transformer (T3) of ES8GP	YOUNG WOO TECH	YW1616S	Class A	IEC 62368-1	Tested in the equipment.
Alternate	SEJIN ELECCOM CO., LTD.	SJ1616	Class A	IEC 62368-1	Tested in the equipment.
Optical Isolator (U459)	Renesas Electronics Corporation or NEC Corporation	PS2561L-1	5000 Vac isolation	IEC60747-5, IEC60950-1, EN60950-1	VDE

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternate	Vishay Infrared Component Inc	ILD206T	3333 Vac	IEC60747-5, IEC60950-1, EN60950-1	VDE
Alternate	AUK Corp	PC-17K1	5000 Vac isolation	IEC60747-5, IEC60950-1, EN60950-1	VDE
Alternate	VISHAY Semiconductors	VO617A	5300 Vrms isolation	IEC60747-5, IEC60950-1, EN60950-1	VDE
Alternate	CHINA RESOURCES SEMICONDUCTOR(SHENZHEN) LIMITED	PC817x	5000 Vac isolation	UL1577	UL (E465130)
BRI gateway Module UCP-BRIM2, UCP-BRIM4					
Enclosure	LG Chemical Ltd.	GP-5008BF	Min flame V-0, minimum 1.5 mm thick	UL94	UL, N/A
Transformer (T1, T2, T3, T4) for UCP-BRIM4. (T1, T2) for UCPBRIM2	Pulse Engineering Inc.	T5011	Class A	IEC 62368-1	Tested in appliance
Alternate	Sejin Eleccom Co., Ltd.	SJ5011	Class A	IEC 62368-1	Tested in appliance
Digital Terminal gateway Module, UCP-DTIM8					
Enclosure	LG Chemical Ltd.	GP-5008BF	Min flame V-0, minimum 1.5 mm thick	UL94	UL
Optical isolator (U8, U9)	KODENSHI KOREA CORP	PC-17K1	5000Vac isolation. Cr internal: > 4 mm. DTI: > 0.4 mm.	IEC60747-5, VDE884	VDE
Alternate	CHINA RESOURCES SEMICONDUCTOR(SHENZHEN) LIMITED	PC817x	5000 Vac isolation	IEC60747-5, VDE884	VDE
Alternate	NEC Electronics Corp Compound Semiconductor Device Div	PS2561-1	5000 Vac isolation	IEC60747-5, VDE884	VDE

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Thermistor (PT1~PT8)	Tyco Electronics Corp Raychem Circuit Protection Div	PSR21083B	PTC, 40 V, 85 °C, rated I _h =0.18 A, I _t =0.27 A.	UL1434	UL (E74889)
Alternate	TYCO ELECTRONICS CORP RAYCHEM CIRCUIT PROTECTION DIV	PSR21083B	PTC, 40 V, 85 °C, rated I _h =0.18 A, I _t =0.27 A.	UL1434	UL (E74889)
Thermistor (PT9, PT11)	Tyco Electronics Corp Raychem Circuit Protection Div	RXEF075	PTC, 72 V, 85 °C, rated I _h =0.75 A, I _t =1.5 A.	UL1434	UL (E74889)
Transformer (T2, T3, T4, T5, T6, T7, T8, T9)	Sejin Eleccom Co., Ltd. or SH ELECTRONICS CO., LTD. or Young Woo Tech.	ED3729	Class A	IEC 62368-1	Tested in appliance
Transformer (T10)	SH Eleccom Co., Ltd.	SH1616S	Class A	IEC 62368-1	Tested in appliance
Alternate	Sejin Eleccom Co., Ltd.	SJ1616	Class A	IEC 62368-1	Tested in appliance
Alternate	Young Woo Tech.	YW1616S	Class A	IEC 62368-1	Tested in appliance
Transformer (T11)	Sejin Eleccom Co., Ltd.	SJ2820	Class A	IEC 62368-1	Tested in appliance
Multi-Media Conference Module/Voice Mail Interface Module, UCP- MCIM/VMIM					
Enclosure	LG Chemical Ltd.	GP-5008BF	Min flame V-0, minimum 1.5 mm thick	UL94	UL
Transformer (T4)	SH Eleccom Co., Ltd.	SH1616S	Class A	IEC 62368-1	Tested in appliance
Alternate	Sejin Eleccom Co., Ltd.	SJ1616	Class A	IEC 62368-1	Tested in appliance
Alternate	Young Woo Tech.	YW1616S	Class A	IEC 62368-1	Tested in appliance

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

PRI gateway Module, UCP-PRIM					
Enclosure	LG Chemical Ltd.	GP-5008BF	Min flame V-0, minimum 1.5 mm thick	UL94	UL
Optical isolator (U6)	KODENSHI KOREA CORP	PC-17K1	5000Vac isolation. Cr internal: > 4 mm. DTI: > 0.4 mm.	IEC60747-5, VDE884	VDE
Alternate	CHINA RESOURCES SEMICONDUCTOR(SHENZHEN) LIMITED	PC817x	5000 Vac isolation	IEC60747-5, VDE884	VDE
Alternate	NEC ELECTRONICS CORP COMPOUND SEMICONDUCTOR DEVICE DIV	PS2561-1	5000 Vac isolation	IEC60747-5, VDE884	VDE
Relay (RL1, RL2)	Omron Corp.	G6K-2F-Y-TR	Contact 30 V, coil 4.5 Vdc	UL508	UL (E41515)
Alternate	MATSUSHITA ELECTRIC WORKS LTD	AGQ200A4H	Contact 30 V, Coil 4.5 Vdc	UL508	UL (E43149)
Transformer (T4)	SH ELECTRONICS CO., LTD.	SH1616S	Class A	IEC 62368-1	Tested in appliance
Alternate	SEJIN ELECCOM CO., LTD.	SJ1616	Class A	IEC 62368-1	Tested in appliance
Alternate	Young Woo Tech.	YW1616S	Class A	IEC 62368-1	Tested in appliance
Transformer (T2)	Pulse Engineering Inc.	T1144	Class A	IEC 62368-1	Tested in appliance
Voice over IP Module, UCP-VOIM8/24					
Optical isolator (U6)	KODENSHI KOREA CORP	PC-17K1	5000Vac isolation. Cr internal: > 4 mm. DTI: > 0.4 mm.	IEC60747-5, VDE884	VDE

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternate	CHINA RESOURCES SEMICONDUCTOR(SHENZHEN) LIMITED	PC817x	5000 Vac isolation	IEC60747-5, VDE884	VDE
Alternate	NEC ELECTRONICS CORP COMPOUND SEMICONDUCTOR DEVICE DIV	PS2561-1	5000 Vac isolation	IEC60747-5, VDE884	VDE
Transformer (T4)	SH ELECTRONICS CO., LTD.	SH1616S	Class A	IEC 62368-1	Tested in appliance
Alternate	SEJIN ELECCOM CO., LTD.	SJ1616	Class A	IEC 62368-1	Tested in appliance
Alternate	Young Woo Tech.	YW1616S	Class A	IEC 62368-1	Tested in appliance
VoIP and Conference Interface Module, UCP-VCIM					
Enclosure	LG Chemical Ltd.	GP-5008BF(#)	Min flame V-0, minimum 1.5 mm thick	UL94	UL(E67171)
Thermistor (PT1)	TYCO ELECTRONICS CORP RAYCHEM CIRCUIT PROTECTION DIV	PSR21083B	PTC, 40 V, 85 °C, rated I _h =0.18 A, I _t =0.27 A.	UL1434	UL (E74889)
Alternate	POLYTRONICS TECHNOLOGY CORP	RLD60P017XF/020XF	PTC, 40 V, 85 °C, rated I _h =0.17~0.2 A, I _t =0.34~0.4 A.	UL1434	UL (E201431)
Thermistor (PT4)	TYCO ELECTRONICS CORP RAYCHEM CIRCUIT PROTECTION DIV	RXE-110	PTC, 72 V, 85 °C, rated I _h =1.10 A, I _t =2.2 A.	UL1434	UL (E74889)
Alternate	POLYTRONICS TECHNOLOGY CORP	RLD72P110XF	PTC, 72 V, 85 °C, rated I _h =1.10 A, I _t =2.2 A.	UL1434	UL (E201431)

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Transformer (T5)	Young Woo Tech.	YW2020	Class A	IEC 62368-1	Tested in appliance
Optical Isolator (U3)	VISHAY Semiconductors	VO617A	5300 Vrms isolation	IEC60747-5, IEC60950-1	VDE
Alternate	Renesas Electronics Corporation or NEC Corporation	PS2561L-1	5000 Vac isolation	IEC60747-5, IEC60950-1,	VDE
Alternate	VISHAY INFRARED COMPONENT INC	ILD206T	3333 Vac	IEC60747-5, IEC60950-1,	VDE
Alternate	CHINA RESOURCES SEMICONDUCTOR(SHENZHEN) LIMITED	PC817x	5000 Vac isolation	IEC60747-5, VDE884	VDE
Alternate	AUK Corp	PC-17K1	5000 Vac isolation	IEC60747-5, IEC60950-1,	VDE
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

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Clause	Requirement + Test	Result - Remark	Verdict

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests			N/A
(The following mechanical tests are conducted in the sequence noted.)				
4.8.4.2	TABLE: Stress Relief test			—
	Part	Material	Oven Temperature (°C)	Comments
4.8.4.3	TABLE: Battery replacement test			—
	Battery part no.....:			—
	Battery Installation/withdrawal		Battery Installation/Removal Cycle	Comments
			1	
			2	
			3	
			4	
			5	
			6	
			8	
			9	
			10	
4.8.4.4	TABLE: Drop test			—
	Impact Area	Drop Distance	Drop No.	Observations
			1	
			2	
			3	
4.8.4.5	TABLE: Impact			—
	Impacts per surface	Surface tested	Impact energy (Nm)	Comments
4.8.4.6	TABLE: Crush test			—
	Test position	Surface tested	Crushing Force (N)	Duration force applied (s)
Supplementary information:				

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Clause	Requirement + Test	Result - Remark	Verdict
4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result		N/A
Test position	Surface tested	Force (N)	Duration force applied (s)
Supplementary information:			

5.2	Table: Classification of electrical energy sources						P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions ¹⁾	Parameters			ES Class
				U (Vrms or Vpk)	I (A _{pk} or A _{rms})	Hz	
1	264 Va.c. 60Hz	Primary circuit	Normal	264 Vrms	-	60	ES3
			Abnormal	-	-	-	
			Single fault	-	-	-	
2	264 Va.c. 60Hz	T1 secondary	Normal	101 V _{peak}	0.84 mA _{pk}	47.8 k	ES2
			Abnormal	-	-	-	
			Single fault	-	-	-	
3	264 Va.c. 60Hz	T2 secondary	Normal	28.3 V _{peak}	-	-	ES1
			Abnormal	-	-	-	
			Single fault	-	-	-	
4	254.4Va.c. 60Hz	USB	Normal (rated load)	4.724 Vdc	-	-	ES1
			Abnormal (overload)	3.710 Vdc	-	-	
			Single fault (open voltage) Single fault	4.982 Vdc -	-	-	

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Clause	Requirement + Test	Result - Remark	Verdict

5.2.2.3 - Capacitance Limits							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class	
				Capacitance, nF	Upk (V)		
1	264 Va.c. 60Hz	C31 (+,-)	Normal	470000	DC 48 V	ES1	
			Abnormal	-	-	-	
			Single fault (D10, K-A)	470000	0	ES1	
2	264 Va.c. 60Hz	C45 (+,-)	Normal	2200000	DC 5 V	ES1	
			Abnormal	-	-	-	
			Single fault	-	-	-	
5.2.2.4 - Single Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	lpk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
5.2.2.5 - Repetitive Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	lpk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
Test Conditions: Normal – Full load and no load., Abnormal – Overload output Supplementary information: SC=Short Circuit, OC=Open Circuit							

IEC 62368-1						
Clause	Requirement + Test	Result - Remark				Verdict
5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
	Supply voltage (V)	90 V/60Hz	264 V/50Hz	90 V/60Hz	264 V/50Hz	—
	Ambient T _{min} (°C)	20.5	21.1	-	-	—
	Ambient T _{max} (°C)	23.2	24.2	-	-	—
	T _{ma} (°C)	-	-	40	40	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T _{max} (°C)
T1 coil of POE8		37.8	38.6	54.6	54.4	90
Fan body of POE8		48.8	49.9	65.6	65.7	100
T11 coil of DTIM8		37.4	37.9	54.2	53.7	90
T4 coil of DIDM8		49.3	49.6	66.1	65.4	90
T22 coil of DIDM8		43.0	43.6	59.8	59.4	90
Fan body of DIDM8		39.7	40.0	56.5	55.8	100
T4 coil of SLTM8		65.2	67.7	82.0	83.5	90
T52 coil of SLTM8		56.7	57.2	73.5	73.0	90
Fan body of SLTM8		50.5	51.2	67.3	67.0	100
Enclosure Top		32.3	32.8	*34.1	*33.6	60
Enclosure Front		28.2	29.3	*30.0	*30.1	60
< SMPS >						
EMI Filter Body		29.7	31.0	46.5	46.8	-
Main Switch Body		30.4	31.4	*32.2	*32.2	77
C1 body		27.6	28.6	44.4	44.4	100
C42 body		32.0	32.0	48.8	47.8	100
LF1 coil		29.9	29.3	46.7	45.1	90
L3 coil		30.4	30.4	47.2	46.2	90
C7 body		40.1	39.8	56.9	55.6	105
CN1 Connector body		28.1	29.1	44.9	44.9	95
ZN1 body		28.1	28.9	44.9	44.7	-
ZN2 body		26.1	27.7	42.9	43.5	-
T1 coil		44.5	45.7	61.3	61.5	90
T1 core		44.4	45.4	61.2	61.2	100
T2 coil		32.1	33.2	48.9	49.0	90
T2 core		34.2	35.3	51	51.1	100
L1 coil		43.9	38.1	60.7	53.9	90

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Clause	Requirement + Test		Result - Remark		Verdict
L1 core	45.7	39.6	62.5	55.4	100
U2 body	49.5	50.5	66.3	66.3	-
U5 body	38.7	39.9	55.5	55.7	-
U4 body	53.3	54.3	70.1	70.1	-
U7 body	41.8	42.9	58.6	58.7	-
Heatsink of U1, Q1, D2	44.4	46.3	61.2	62.1	-
Heatsink of D7, D8	38.7	40.0	55.5	55.8	-
PCB near T1	30.5	31.8	47.3	47.6	105
SMPS front case body	42.4	43.4	*45.2	*45.2	60
Supplementary information: T (°C) under 40 is calculated value as $T_{Measured} - T_{amb} + T_{ma}$, $T_{ma} : 40$ °C. *)The temperatures for accessible parts are adjusted to reflect a value of 25 °C					

5.4.1.8	Table: working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Comments	
T1 pin 1,2,3,4 to 9,10	300	520		
T1 pin 1,2,3,4 to 11,12,13	269	470		
T1 pin 1,2,3,4 to 14,15	238	395		
T1 pin 6,7 to 9,10	225	410		
T1 pin 6,7 to 11,12,13	196	385		
T1 pin 6,7 to 14,15	251	500		
C29	142	310		
T2 pin 1 to 7	169	355		
T2 pin 1 to 8,9	169	355		
T2 pin 2 to 7	190	405		
T2 pin 2 to 8,9	169	410		
T2 pin 4 to 7	321	450		
T2 pin 4 to 8,9	323	336		
T2 pin 5 to 7	341	550		
T2 pin 5 to 8,9	343	550		
U3 pin 1 to 3	153	330		
U3 pin 1 to 4	181	354		
U3 pin 2 to 3	153	344		
U3 pin 2 to 4	181	372		
U9 pin 1 to 3	158	362		

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.8	Table: working voltage measurement		P
U9 pin 1 to 4	159	364	
U9 pin 2 to 3	162	376	
U9 pin 2 to 4	161	352	
C4	239	365	
C5	155	335	
Live to Neutral	240	340	
supplementary information:			

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		N/A
Penetration (mm).....			—
Object/ Part No./Material	Manufacturer/trademark	T softening (°C)	
supplementary information:			

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			P
Allowed impression diameter (mm)	≤ 2 mm			—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
CN1 Connector Body, Plastic, 4.5 mm	-	125	1.0	
T1 Bobbin, Plastic, 3.6 mm	-	125	0.6	
T2 Bobbin, Plastic, 2.9 mm	-	125	0.5	
LF1 Bobbin, Plastic, 4.3 mm	-	125	1.1	
Line Filter (LF1), Bobbin, 2.1 mm	-	125	0.6	
Line Filter (LF2), Bobbin, 2.1 mm	-	125	0.6	
Inductor (L1), Bobbin, 3.14 mm	-	125	0.8	
Inductor (L2), Bobbin, 1.2 mm	-	125	0.8	
Primary connector (CN1), Plastic, 3.19 mm	-	125	1.5	
Supplementary information:				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)	Required cl (mm)	cl (mm) ²	Required cr (mm)	cr (mm)	
Basic/supplementary:								
Line to GND	340	240	--	1.5	4.0	2.4	4.0	
Reinforced:								
Primary and secondary (T1)	520	300	--	3.0	31.1	6.0	31.1	
Primary and secondary (C29)	310	142	--	3.0	7.9	4.8	7.9	
Primary and secondary (T2)	550	343	--	3.0	16.5	7.0	16.5	
Primary and secondary (U3)	372	181	--	3.0	7.6	4.8	7.6	
Primary and secondary (U9)	376	162	--	3.0	7.4	4.8	7.4	
Primary and secondary (C4)	365	239	--	3.0	8.1	4.8	8.1	
Primary and secondary (C5)	335	155	--	3.0	8.1	4.8	8.1	
Supplementary information:								

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			N/A
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)	
Supplementary information:				

5.4.2.4	TABLE: Clearances based on electric strength test			N/A
Test voltage applied between:	Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No	
Supplementary information: Using procedure 2 to determine the clearance.				

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)	
Transformer (T1) bobbin	520	60	Phenol	0.4	0.9	
Transformer (T2) bobbin	550	60	Phenol	0.4	0.9	
Supplementary information: N/A						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (Vpeak)	Breakdown Yes / No	
Basic/supplementary:				
Line / Neutral to earth	DC	2500	No	
EXTERNAL CIRCUITS OF ID NUMBER 1 OF TABLE 14 – ES1	DC	2500	No	
EXTERNAL CIRCUITS OF ID NUMBER 1 OF TABLE 14 – GND	DC	2500	No	
Transformer T1, T2: Primary winding to Core	DC	2500	No	
Transformer T1, T2: Core to secondary winding	DC	2500	No	
Reinforced:				
Unit: Primary circuit to secondary circuit	DC	4000	No	
Transformer T1, T2: Primary winding to secondary winding	DC	4000	No	
2 layer of 3 layers of insulation tape used in T1, T2	DC	4000	No	
Impulse test and Steady-state test:				
EXTERNAL CIRCUITS OF ID NUMBER 1 OF TABLE 14circuit – ES1 circuit	Impulse	1500	No	
EXTERNAL CIRCUITS OF ID NUMBER 1 OF TABLE 14circuit – ES1 circuit	AC	1000	No	
EXTERNAL CIRCUITS OF ID NUMBER 1 OF TABLE 14circuit – GND	Impulse	1500	No	
EXTERNAL CIRCUITS OF ID NUMBER 1 OF TABLE 14circuit – GND	AC	1000	No	
Supplementary information:				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.5.2.2	TABLE: Stored discharge on capacitors					P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
264 V, 60Hz	Primary	N	Switch on	0	ES1	
264 V, 60Hz	Primary	S	Switch on	0	ES1	

Supplementary information: The end system may be pluggable equipment type A. Limit of ES1 applied for mains terminal as accessible part.

X-capacitors installed for testing are: C1, C2, 0.47 μ F for each, total 940 nF (Total)

bleeding resistor rating: R1 = 680 k Ω

ICX:

Notes:

A. Test Location: Phase to Phase
 N – Normal operating condition (e.g., normal operation, or open fuse);
 S –Single fault condition, R1 open circuit

5.6.6.2	TABLE: Resistance of protective conductors and terminations				P
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
Appliance inlet and GND chassy	32	2	0.512	0.016	

Supplementary Information:

See clause 5.6.6.

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Clause	Requirement + Test	Result - Remark	Verdict

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		P
Supply voltage	264 V, 60 Hz		—
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)	
Accessible metal Part	Normal	0.054 mApk	
Accessible metal Part	Earth open	0.720 mApk	
Lan port	Normal	0.056 mApk	
Lan port	Earth open	0.737 mApk	
RS-232 port	Normal	0.058 mApk	
RS-232 port	Earth open	0.744 mApk	
USB port	Normal	0.058 mApk	
USB port	Earth open	0.740 mApk	
Supplementary Information:			

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

6.2.2	Table: Electrical power sources (PS) measurements for classification				P	
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification	
*Primary Circuits	-	Power (W) :	-	-	PS3	
		V _A (V) :				
		I _A (A) :				
- 48 V line	a worst-case fault	Power (W) :	-	-257.3	PS3	
		V _A (V) :				-48.85
		I _A (A) :				
5 V line	a worst-case fault	Power (W) :	-	19.4	PS2	
		V _A (V) :				3.8
		I _A (A) :				5.1
USB	a worst-case fault	Power (W) :	5.52	-	PS1	
		V _A (V) :	4.982			
		I _A (A) :	1.5			
Supplementary Information: *PS3 declared by the manufacturer						

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)				P
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No	

Supplementary information:
 An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15. Primary connectors are consider to be Arcing PIS.

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No

Supplementary Information:
 A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

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Clause	Requirement + Test	Result - Remark	Verdict

8.5.5	TABLE: High Pressure Lamp		N/A
Description	Values	Energy Source Classification	
Lamp type		—	
Manufacturer		—	
Cat no.....		—	
Pressure (cold) (MPa)		MS_	
Pressure (operating) (MPa).....		MS_	
Operating time (minutes).....		—	
Explosion method		—	
Max particle length escaping enclosure (mm) .:		MS_	
Max particle length beyond 1 m (mm)		MS_	
Overall result			
Supplementary information:			

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test							P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
AC 90	0.852	-	75.0	-	F1	0.852	Max. Normal Load / 50 Hz	
AC 100	0.774	4.0	74.7	-	F1	0.774	Max. Normal Load / 50 Hz	
AC 240	0.440	4.0	80.1	-	F1	0.440	Max. Normal Load / 50 Hz	
AC 264	0.429	-	79.0	-	F1	0.429	Max. Normal Load / 50 Hz	
AC 90	0.856	-	75.2	-	F1	0.856	Max. Normal Load / 60 Hz	
AC 100	0.776	4.0	74.8	-	F1	0.776	Max. Normal Load / 60 Hz	
AC 240	0.443	4.0	80.3	-	F1	0.443	Max. Normal Load / 60 Hz	
AC 264	0.433	-	79.4	-	F1	0.433	Max. Normal Load / 60 Hz	

Supplementary information:

B.3 & B.4	TABLE: Abnormal operating and fault condition tests								P
Ambient temperature (°C)					22-28			—	
Power source for EUT: Manufacturer, model/type, output rating ...:					KOSYSTEK, WAP-IPECS250, Output: -48 Vdc, 5.3 A / +5 Vdc, 1.0 A			—	
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Tem p. (°C)	Observation	
BD1 (+,~)	S/C	AC 264	1 sec	F1	0	-	-	Inlet fuse opened NH, NB	
BD1 (-,~)	S/C	AC 264	1 sec	F1	0	-	-	Inlet fuse opened NH, NB	
C5	S/C	AC 264	1 sec	F1	0	-	-	Inlet fuse opened NH, NB	
SUB1 (Vcc-4)	S/C	AC 264	10 min	F1	2.23	-	-	NCD, NH, NB	
SUB1 (Vcc-5)	S/C	AC 264	1 sec	F1	0	-	-	Inlet fuse opened NH, NB	
Q1 (S-G)	S/C	AC 264	10 min	F1	2.23	-	-	NCD, NH, NB	
Q1 (D-G)	S/C	AC 264	1 sec	F1	0	-	-	Inlet fuse opened NH, NB	
*Q1 (D-G)	S/C	AC 264	1 sec	F1	0	-	-	Inlet fuse opened NH, NB	
Q1 (S-D)	S/C	AC 264	1 sec	F1	0	-	-	Inlet fuse opened NH, NB	

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Clause	Requirement + Test				Result - Remark			Verdict
B.3 & B.4	TABLE: Abnormal operating and fault condition tests							P
Ambient temperature (°C)					22-28			—
Power source for EUT: Manufacturer, model/type, output rating ...:					KOSYSTEK, WAP-IPECS250, Output: -48 Vdc, 5.3 A / +5 Vdc, 1.0 A			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-coupl e	Tem p. (°C)	Observation
U1 (3-15)	S/C	AC 264	1 sec	F1	0	-	-	Inlet fuse, D1, U1, U2 damaged NH, NB
*U1 (3-15)	S/C	AC 264	1 sec	F1	0	-	-	Inlet fuse, D1, U1, Z5 damaged NH, NB
U1 (3-4)	S/C	AC 264	10 min	F1	0.2	-	-	NH, NB, NCD
U2 (3-4)	S/C	AC 264	10 min	F1	2.07	-	-	NH, NB, NCD
D13	S/C	AC 264	10 min	F1	2.19	-	-	NH, NB, NCD
R24	O/C	AC 264	10 min	F1	2.13	-	-	NH, NB, NCD
U5 (1-2)	S/C	AC 264	10 min	F1	2.37	-	-	NH, NB, NCD
U6 (2-3)	S/C	AC 264	10 min	F1	2.29	-	-	NH, NB, NCD
U4 (1-4)	S/C	AC 264	1 sec	F1	0	-	-	Inlet fuse, Z6, U4, D1 damaged, NH, NB
D11	S/C	AC 264	10 min	F1	2.03	-	-	NH, NB, NCD
U5 (3-4)	S/C	AC 264	10 min	F1	2.03	-	-	NH, NB, NCD
D7	S/C	AC 264	10 min	F1	0.2	-	-	Inlet fuse, U1, D1, BD1 damaged, NH, NB
R19	S/C	AC 264	10 min	F1	2.04	-	-	NH, NB, NCD
U2 (1-2)	S/C	AC 264	10 min	F1	2.04	-	-	NH, NB, NCD
U3 (2-3)	S/C	AC 264	10 min	F1	2.04	-	-	NH, NB, NCD
C24	S/C	AC 264	10 min	F1	2.3	-	-	NH, NB, NCD
R45	S/C	AC 264	10 min	F1	2.3	-	-	NH, NB, NCD
U9 (1-2)	S/C	AC 264	10 min	F1	2.3	-	-	NH, NB, NCD
U8 (1-3)	S/C	AC 264	10 min	F1	2.3	-	-	NH, NB, NCD
C33	S/C	AC 264	10 min	F1	2.3	-	-	NH, NB, NCD
T10 (1-8)	S/C	AC 264	5 min	F1	2.0	-	-	NH, NB, NCD
U8 (1-2)	S/C	AC 264	15 min	F1	2.3	-	-	NH, NB, NCD
U8 (3-4)	S/C	AC 264	15 min	F1	2.3	-	-	NH, NB, NCD
Q1 (DS)	S/C	AC 264	5 min	F1	1.9	-	-	NH, NB, NCD
Q1 (DG)	S/C	AC 264	5 min	F1	1.9	-	-	NH, NB, NCD

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Clause	Requirement + Test				Result - Remark			Verdict
B.3 & B.4	TABLE: Abnormal operating and fault condition tests							P
Ambient temperature (°C)					22-28			—
Power source for EUT: Manufacturer, model/type, output rating ..					KOSYSTEK, WAP-IPECS250, Output: -48 Vdc, 5.3 A / +5 Vdc, 1.0 A			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-coupl e	Tem p. (°C)	Observation
Q1 (GS)	S/C	AC 264	15 min	F1	2.3	-	-	NH, NB, NCD
T1 (Cathode of D7)	O/L 8.5 A	AC 264	7hr	F1	1.33	T1 coil	93.6	Amb: 24.5 °C NH, NB, NCD
T2 (Cathode of D13)	O/L 2.7 A	AC 264	7hr	F1	1.29	T2 coil	44.4	Amb: 24.8 °C NH, NB, NCD
Left fan	Stalled	AC 264	2hr	F1	-	T1 Coil, T2 Coil, Fan body	49.5 37.0 39.2	Amb: 25.8 °C NH, NB, NCD
Right fan	Stalled	AC 264	2hr	F1	-	T1 Coil, T2 Coil, Fan body	51.5 38.7 36.2	Amb: 27.5 °C NH, NB, NCD
SMPS fan	Stalled	AC 264	2hr	F1	-	T1 Coil, T2 Coil	67.7 49.3	Ambient: 26.7°C, NH, NB, NCD
Ventilation openings	Blocked	AC 264	2hr	F1	-	T1 Coil, T2 Coil	58.9 48.8	Ambient: 28.7°C, NH, NB, NCD
Supplementary information: S/C : Short circuited, NCD : No component damaged, O/L : overload, NB : No breakdown, NH : No Hazard, O/C : Open circuited								

IEC 62368-1										
Clause	Requirement + Test			Result - Remark				Verdict		
Annex M	TABLE: Batteries								P	
The tests of Annex M are applicable only when appropriate battery data is not available								P		
Is it possible to install the battery in a reverse polarity position?						Not passible		N/A		
	Non-rechargeable batteries			Rechargeable batteries						
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging		
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	
Max. current during normal condition	See clause 4.3.8	-	0mA	-	-	-	-	-	--	
Max. current during fault condition	-	-	-	-	-	-	-	-	-	
Test results:								Verdict		
- Chemical leaks								P		
- Explosion of the battery								P		
- Emission of flame or expulsion of molten metal								P		
- Electric strength tests of equipment after completion of tests								N/A		
Supplementary information: Lithium coin battery is protected against charging current by Diodes(D17, D18, D21,D35 and Resistor (R1117:390 ohm)										

Annex M.4	Table: Additional safeguards for equipment containing secondary lithium batteries						N/A	
Battery/Cell No.	Test conditions	Measurements			Observation			
		U	I (A)	Temp (C)				
	Normal							
	Abnormal							
	Single fault –SC/OC							
	Normal							
	Abnormal							
	Single fault – SC/OC							
Supplementary Information:								
Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation				

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at T_{highest} (°C)	Observation
Supplementary Information:				

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
USB Port	Normal condition	4.982 Vdc	1.5	8	5.52	100
USB Port	U39 (pin 2 to 7) Sc	4.982 Vdc	1.68	8	6.96	100
LAN Port	Normal condition	0 V	0	8	0	100
Supplementary Information: Sc=short circuit						

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Enclosure (Rear, Top, Side, Bottom)	Metal	Min 1.0	250	5	No hazard.	
Enclosure(front)	PC/ABS	Min 1.5	250	5	No hazard.	
Internal components	-	-	10	5	No hazard.	
Supplementary information:						

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Enclosure (Rear, Top, Side)	Metal	Min 1.0	1300	No hazard.	
Enclosure(front)	PC/ABS	Min 1.5	1300	No hazard.	
Supplementary information:					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

T.7	TABLE: Drop tests				N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
Supplementary information:					

T.8	TABLE: Stress relief test					P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure(front)	PC/ABS	Min 1.5	70	7	No hazard.	
Supplementary information:						

IEC62368_1B - ATTACHMENT																																							
Clause	Requirement + Test	Result - Remark	Verdict																																				
ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)																																							
Differences according to: EN 62368-1:2014+A11:2017																																							
Attachment Form No.: EU_GD_IEC62368_1B_II																																							
Attachment Originator: Nemko AS																																							
Master Attachment: Date 2017-09-22																																							
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	CENELEC COMMON MODIFICATIONS (EN)		P																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".		P																																				
CONTENTS	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P																																				
	Delete all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list: <table border="1" data-bbox="300 1339 1283 1800"> <tbody> <tr> <td>0.2.1</td> <td>Note</td> <td>1</td> <td>Note 3</td> <td>4.1.15</td> <td>Note</td> </tr> <tr> <td>4.7.3</td> <td>Note 1 and 2</td> <td>5.2.2.2</td> <td>Note</td> <td>5.4.2.3.2.2 Table 13</td> <td>Note c</td> </tr> <tr> <td>5.4.2.3.2.4</td> <td>Note 1 and 3</td> <td>5.4.2.5</td> <td>Note 2</td> <td>5.4.5.1</td> <td>Note</td> </tr> <tr> <td>5.5.2.1</td> <td>Note</td> <td>5.5.6</td> <td>Note</td> <td>5.6.4.2.1</td> <td>Note 2 and 3</td> </tr> <tr> <td>5.7.5</td> <td>Note</td> <td>5.7.6.1</td> <td>Note 1 and 2</td> <td>10.2.1 Table 39</td> <td>Note 2, 3 and 4</td> </tr> <tr> <td>10.5.3</td> <td>Note 2</td> <td>10.6.2.1</td> <td>Note 3</td> <td>F.3.3.6</td> <td>Note 3</td> </tr> </tbody> </table>		0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	P
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1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.		P																																				

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	<p>Add the following new subclause after 4.9:</p> <p>To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		P
5.4.2.3.2.4	<p>Add the following to the end of this subclause:</p> <p>The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.</p>		N/A
10.2.1	<p>Add the following to ^{c)} and ^{d)} in table 39:</p> <p>For additional requirements, see 10.5.1.</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	<p>Add the following after the first paragraph: <i>For RS 1 compliance is checked by measurement under the following conditions:</i></p> <p><i>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i></p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p><i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</i></p> <p><i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i></p> <p><i>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</i></p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		N/A
10.6.1	<p>Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		N/A
10.Z1	<p>Add the following new subclause after 10.6.5. 10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</p> <p>The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).</p> <p>For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>		N/A
G.7.1	<p>Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>		P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	<p>Add the following standards:</p> <p>Add the following notes for the standards indicated:</p> <p>IEC 60130-9 NOTE Harmonized as EN 60130-9.</p> <p>IEC 60269-2 NOTE Harmonized as HD 60269-2.</p> <p>IEC 60309-1 NOTE Harmonized as EN 60309-1.</p> <p>IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series.</p> <p>IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4.</p> <p>IEC 60664-5 NOTE Harmonized as EN 60664-5.</p> <p>IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified).</p> <p>IEC 61508-1 NOTE Harmonized as EN 61508-1.</p> <p>IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1.</p> <p>IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4.</p> <p>IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6.</p> <p>IEC 61643-1 NOTE Harmonized as EN 61643-1.</p> <p>IEC 61643-21 NOTE Harmonized as EN 61643-21.</p> <p>IEC 61643-311 NOTE Harmonized as EN 61643-311.</p> <p>IEC 61643-321 NOTE Harmonized as EN 61643-321.</p> <p>IEC 61643-331 NOTE Harmonized as EN 61643-331.</p>		P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		
4.1.15	<p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		N/A
4.7.3	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>		N/A
5.2.2.2	<p>Denmark</p> <p>After the 2nd paragraph add the following:</p> <p>A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.11.1 and Annex G	<p>Finland and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>For separation of the telecommunication network from earth the following is applicable:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14. 		N/A
5.5.2.1	<p>Norway</p> <p>After the 3rd paragraph the following is added:</p> <p>Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	<p>Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.</p>		N/A
5.6.1	<p>Denmark</p> <p>Add to the end of the subclause</p> <p>Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment.</p> <p><i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p>		N/A
5.6.4.2.1	<p>Ireland and United Kingdom</p> <p>After the indent for pluggable equipment type A, the following is added:</p> <p>– the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.</p>		N/A
5.6.5.1	<p>To the second paragraph the following is added:</p> <p>The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm² to 1,5 mm² in cross-sectional area.</p>		N/A
5.7.5	<p>Denmark</p> <p>To the end of the subclause the following is added:</p> <p>The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	<p>Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)”</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”</p> <p>Translation to Swedish:</p> <p>”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	<p>Denmark</p> <p>To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .</p>		N/A
B.3.1 and B.4	<p>Ireland and United Kingdom</p> <p>The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met</p>		N/A
G.4.2	<p>Denmark</p> <p>To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	<p>United Kingdom</p> <p>To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.</p>		N/A
G.7.1	<p>United Kingdom</p> <p>To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A
G.7.1	<p>Ireland</p> <p>To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard</p>		N/A
G.7.2	<p>Ireland and United Kingdom</p> <p>To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm² is allowed for equipment which is rated over 10 A and up to and including 13 A.</p>		N/A

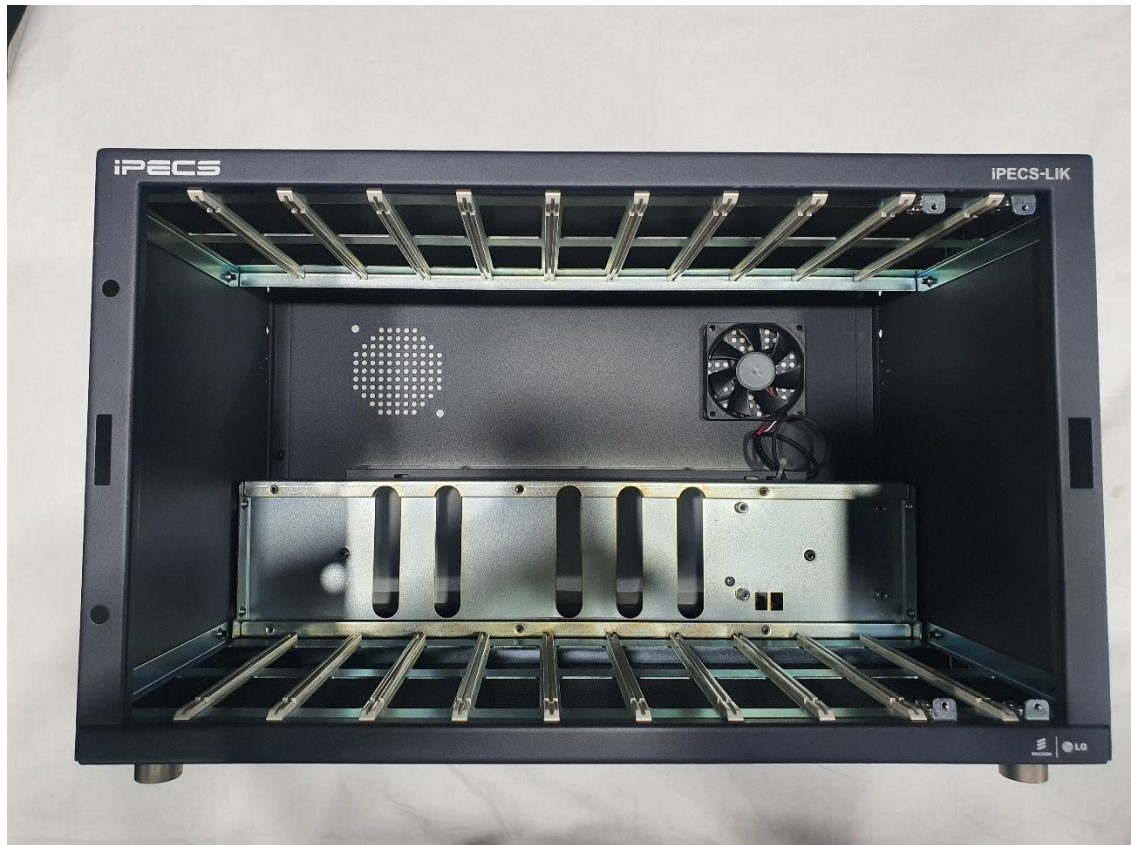
IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		
10.5.2	<p>Germany</p> <p>The following requirement applies:</p> <p>For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i></p> <p>German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p>NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de</p>		N/A

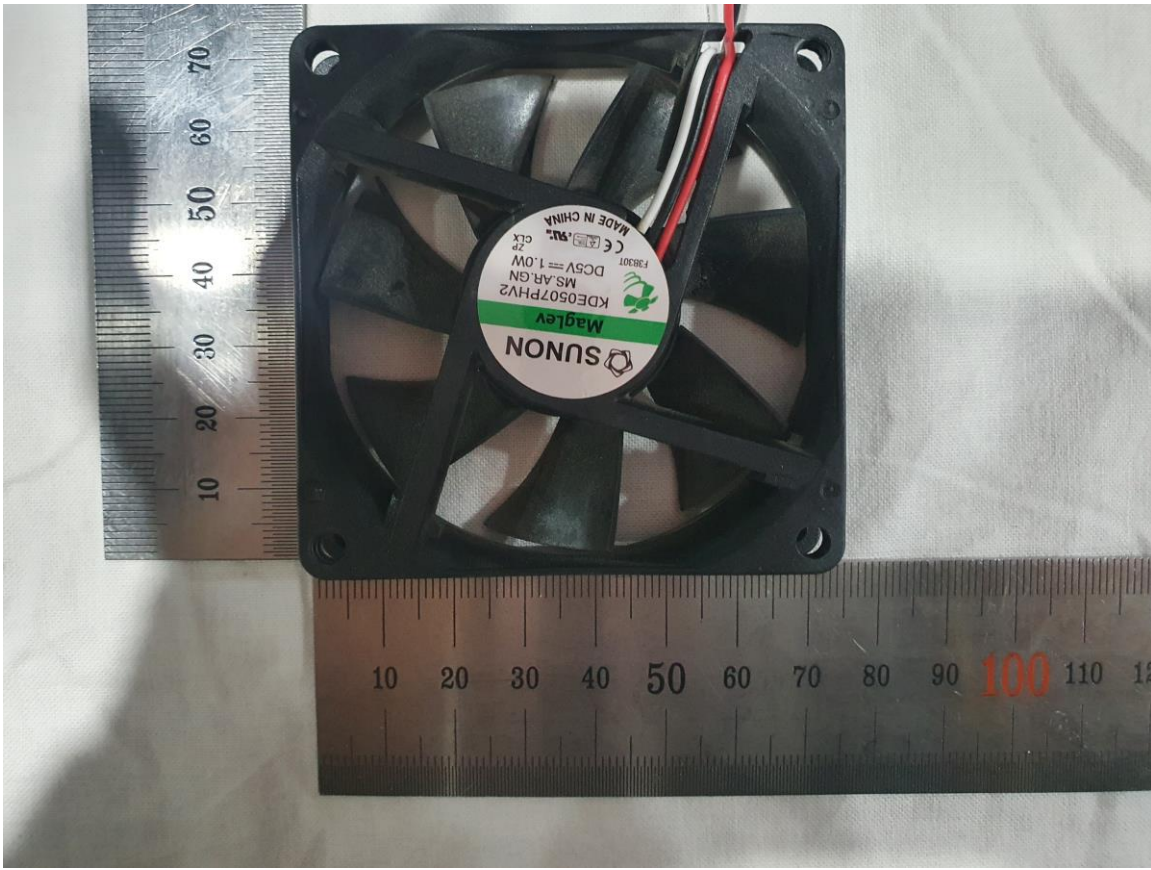
* External View I



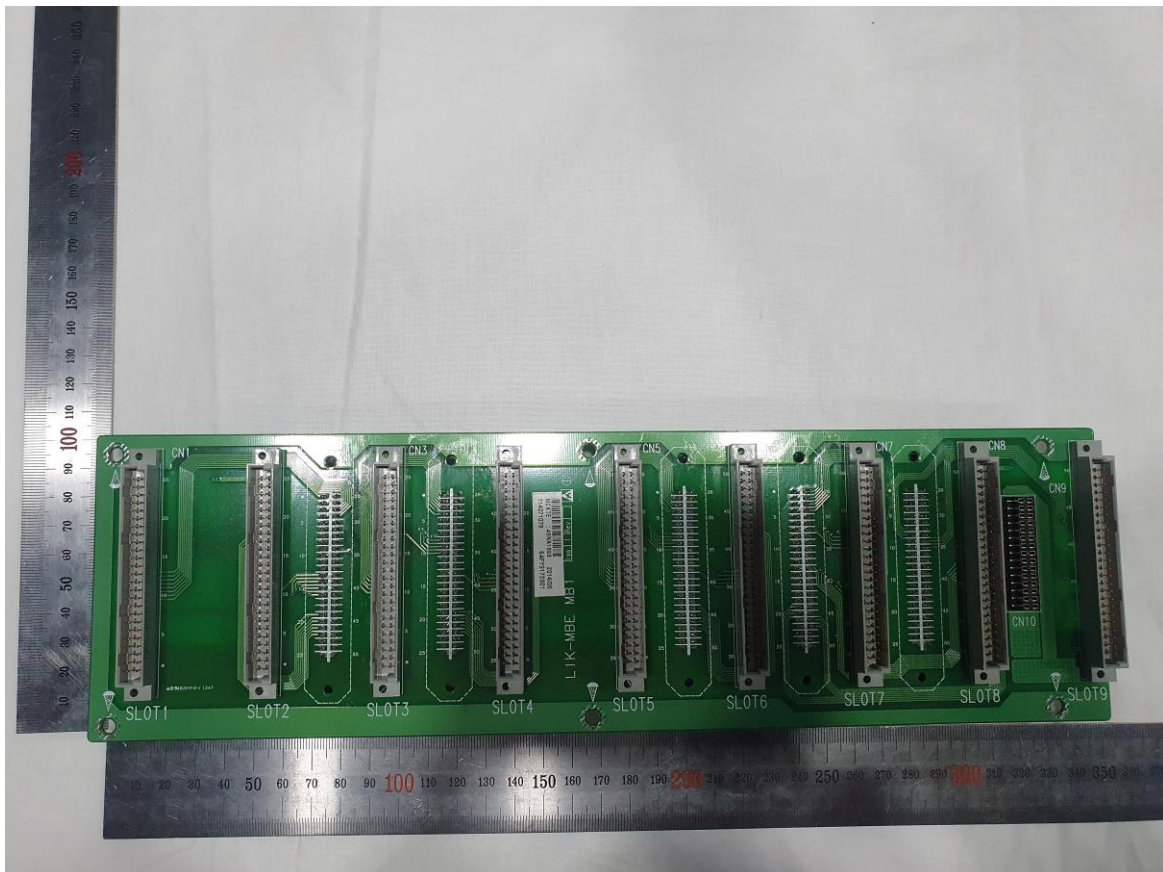
* Case internal view



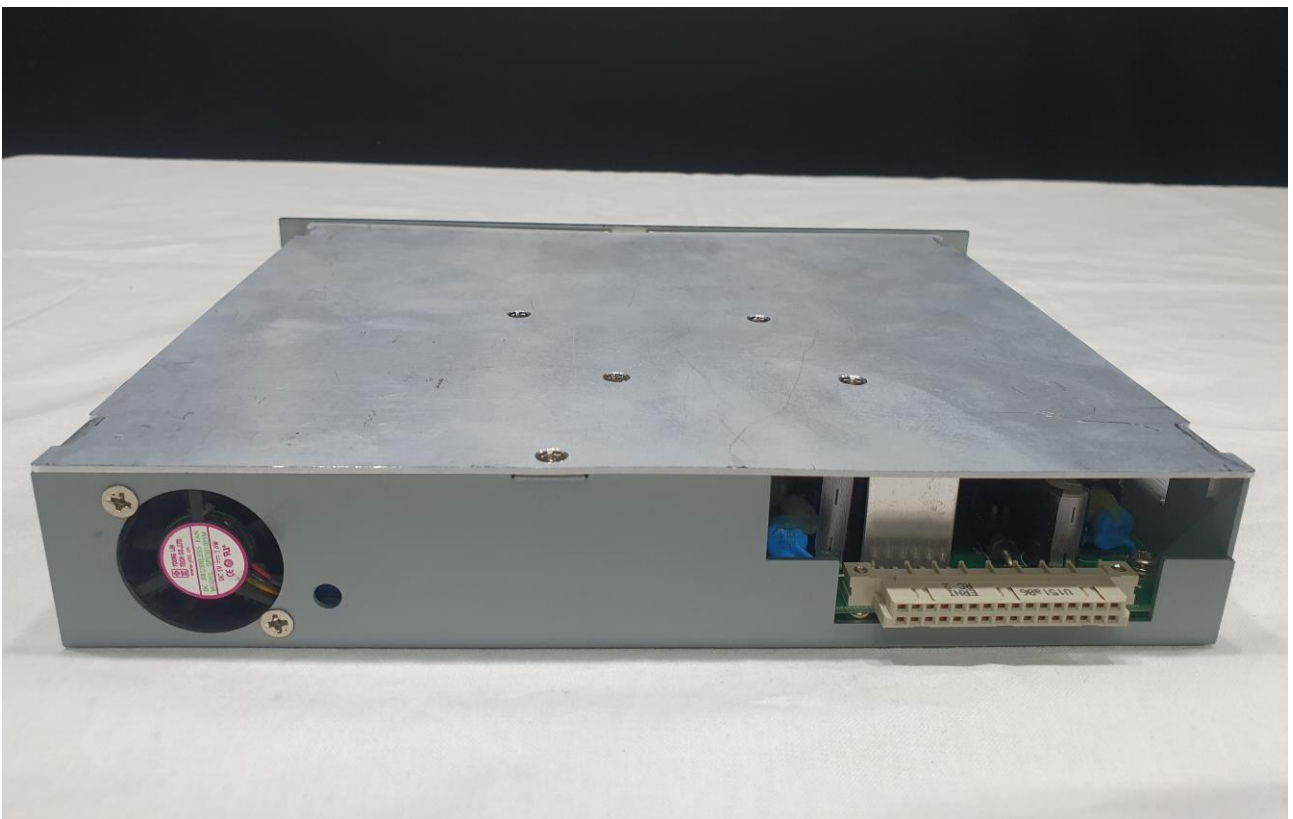
* Fan motor view



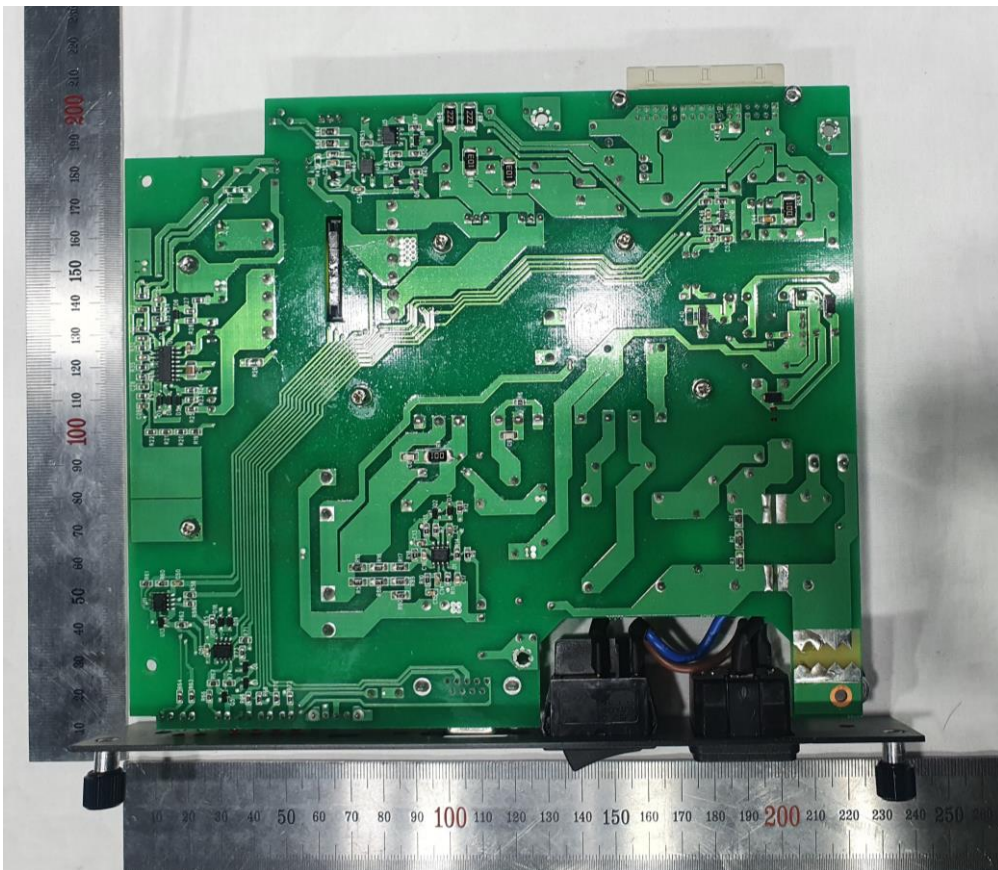
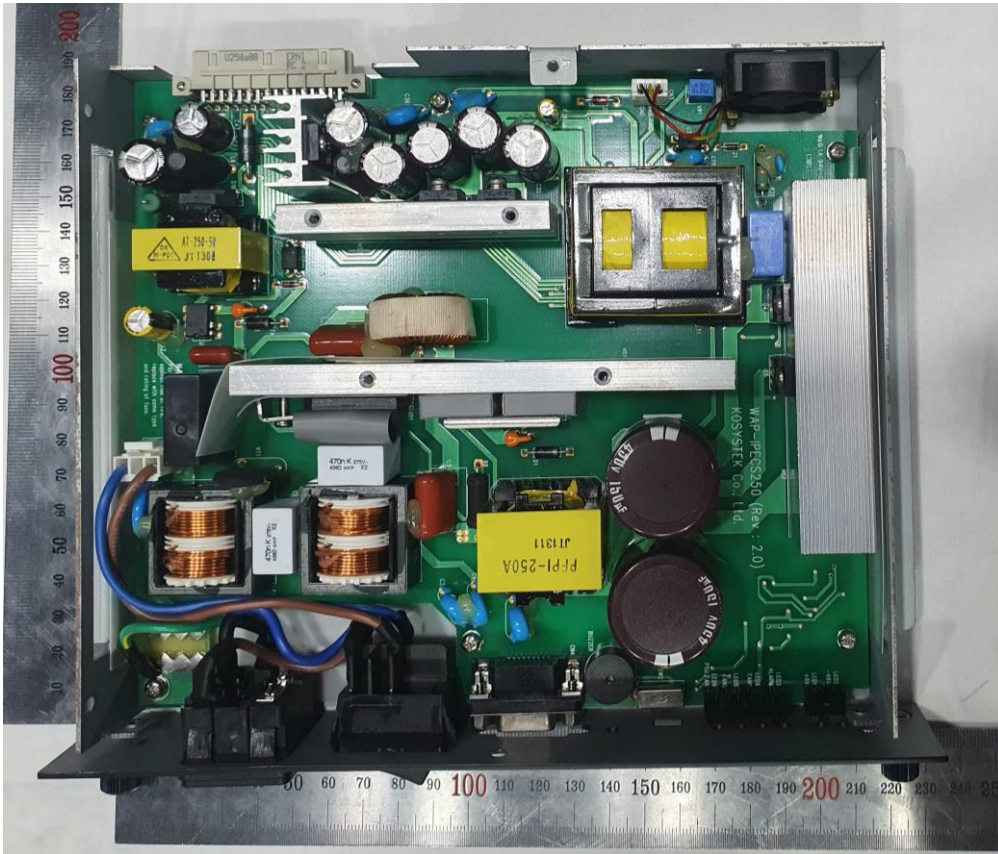
*Slot PCB View



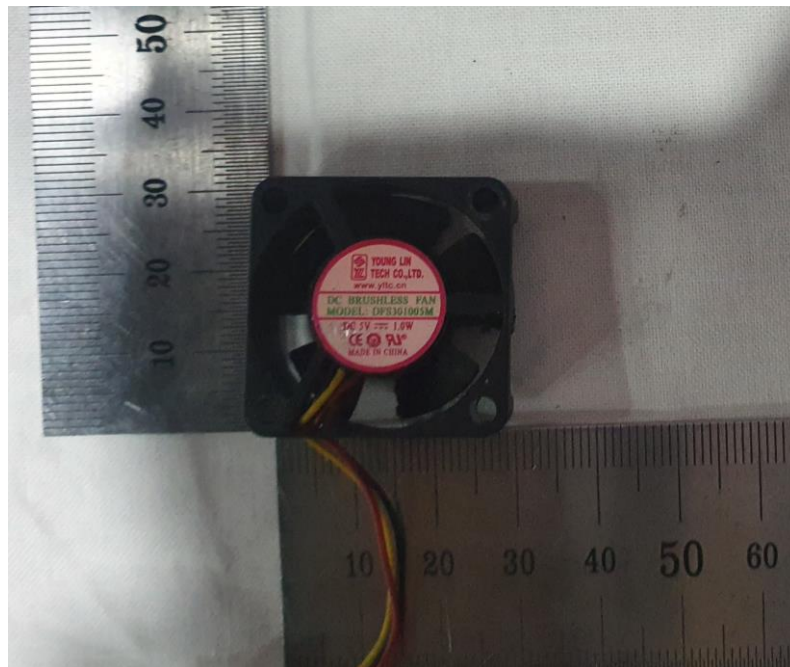
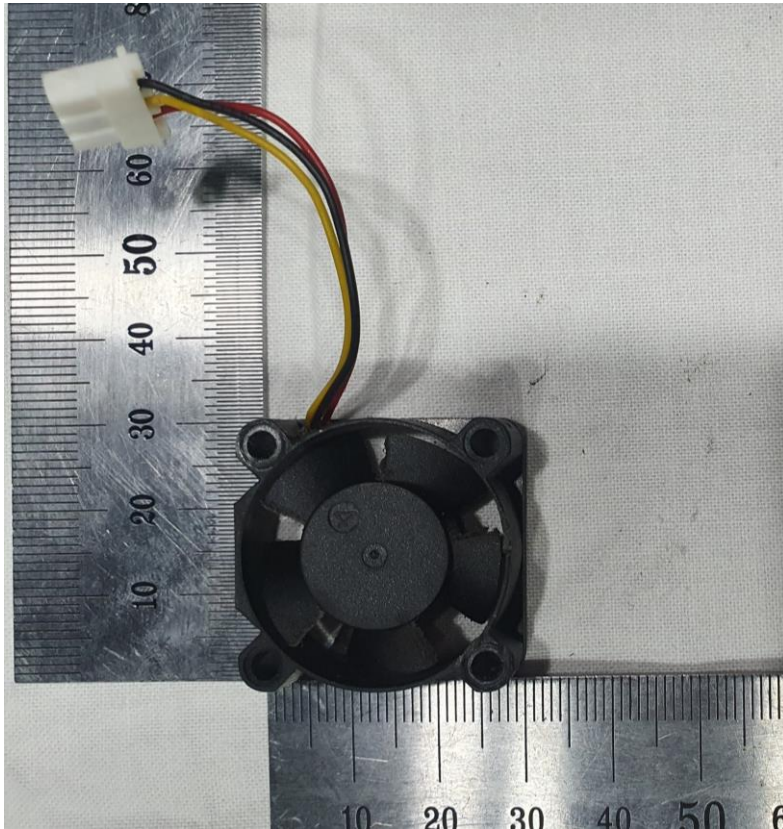
* PSU Module I



* PSU PCB View



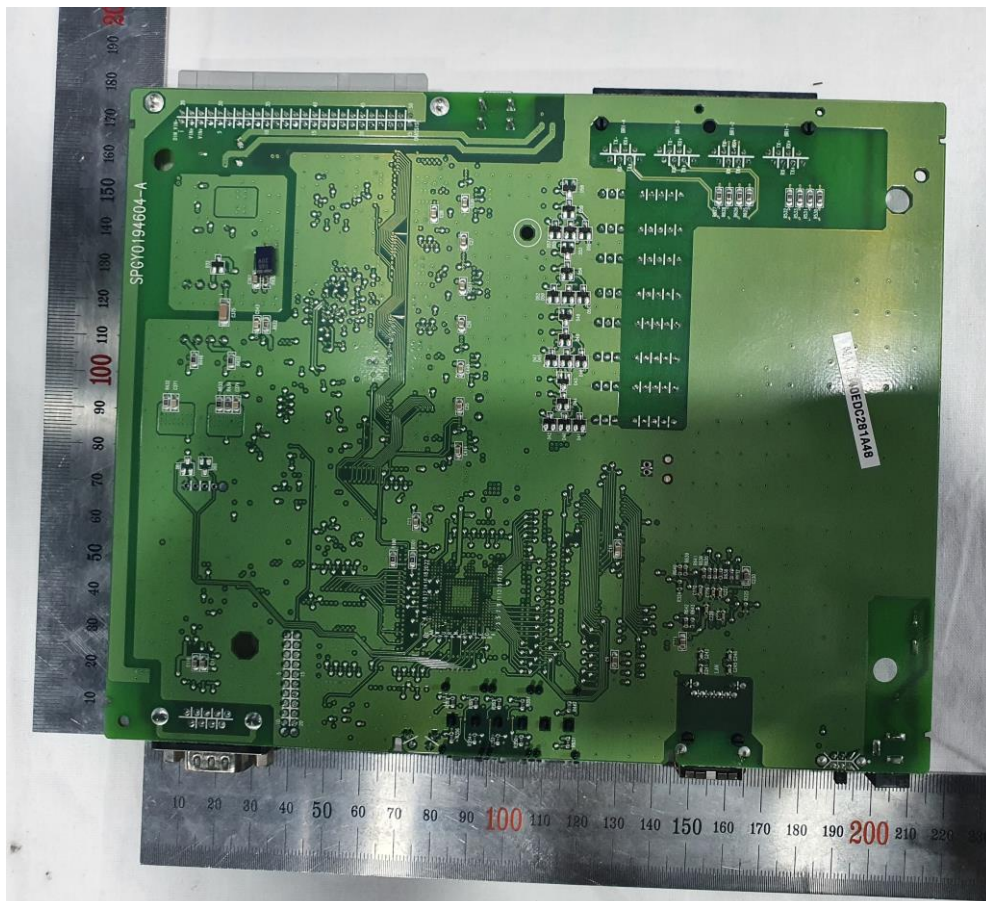
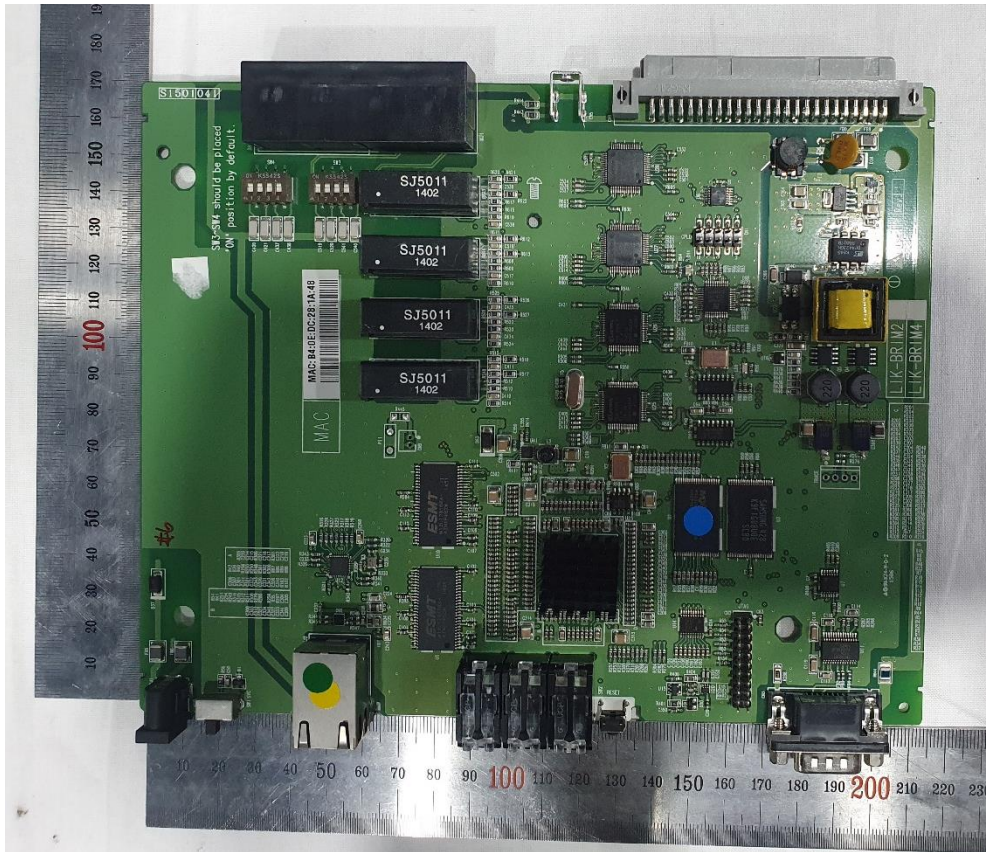
* PSU Fan View



* BRIM4 Module View



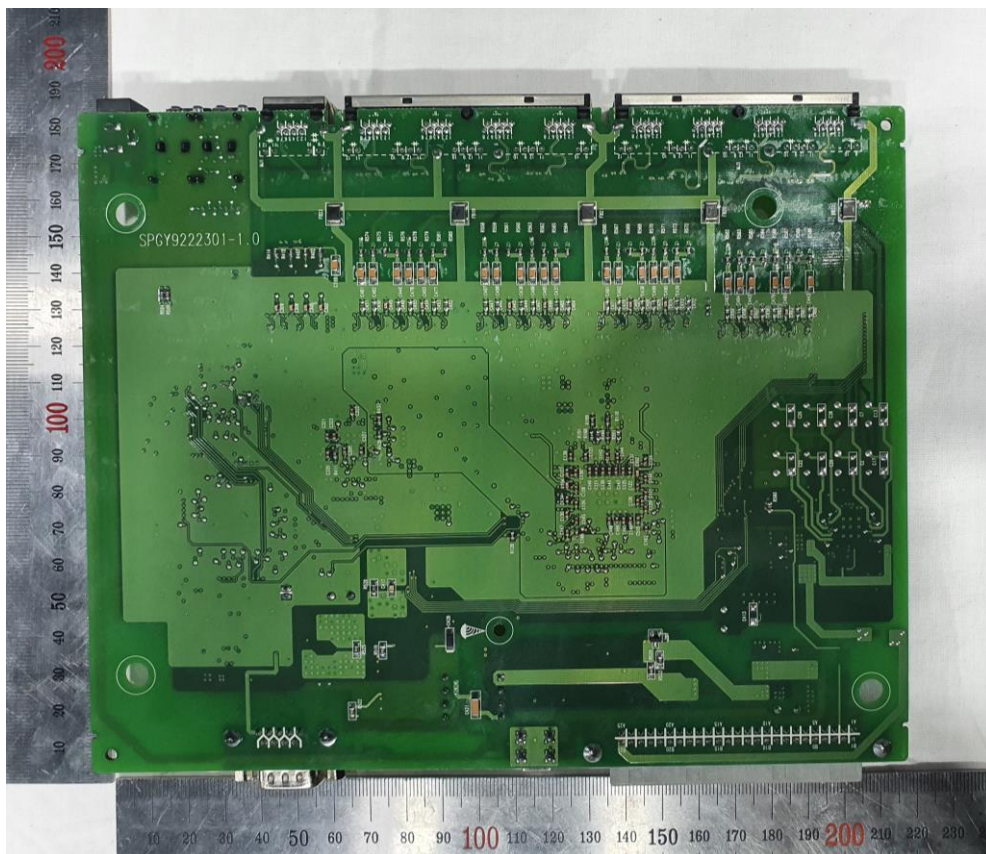
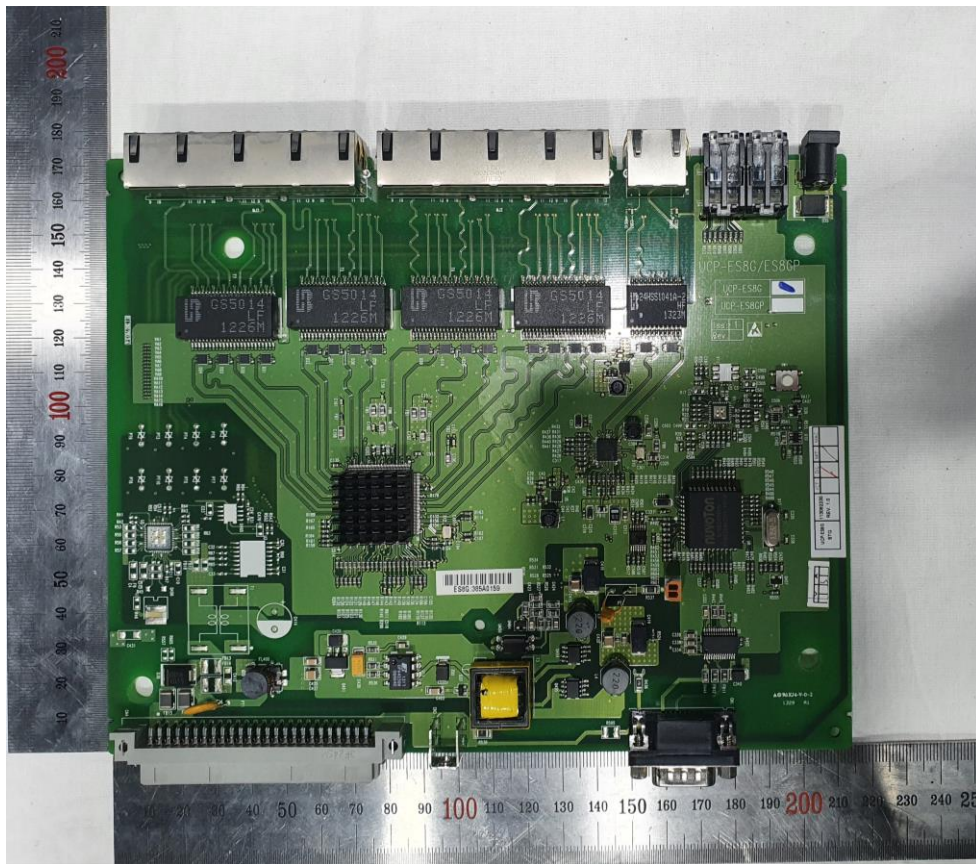
* BRIM4 board View



* ES8G module View



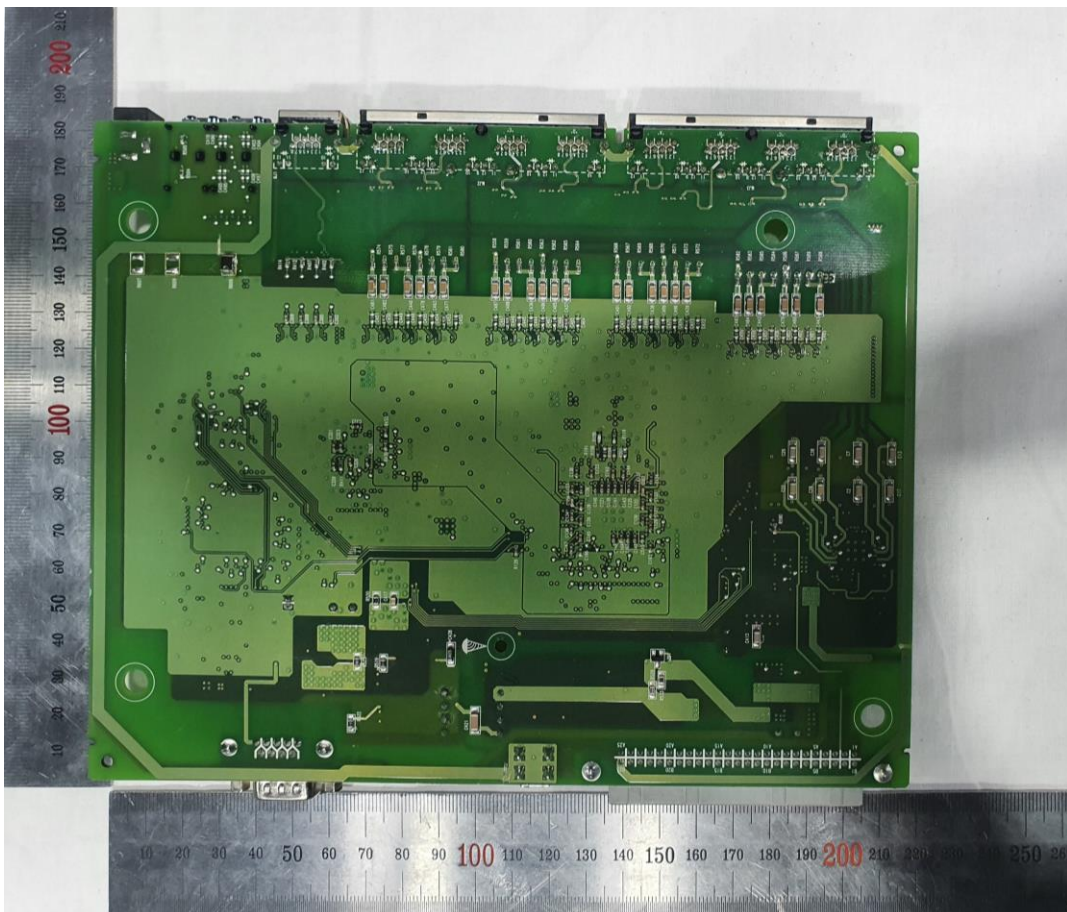
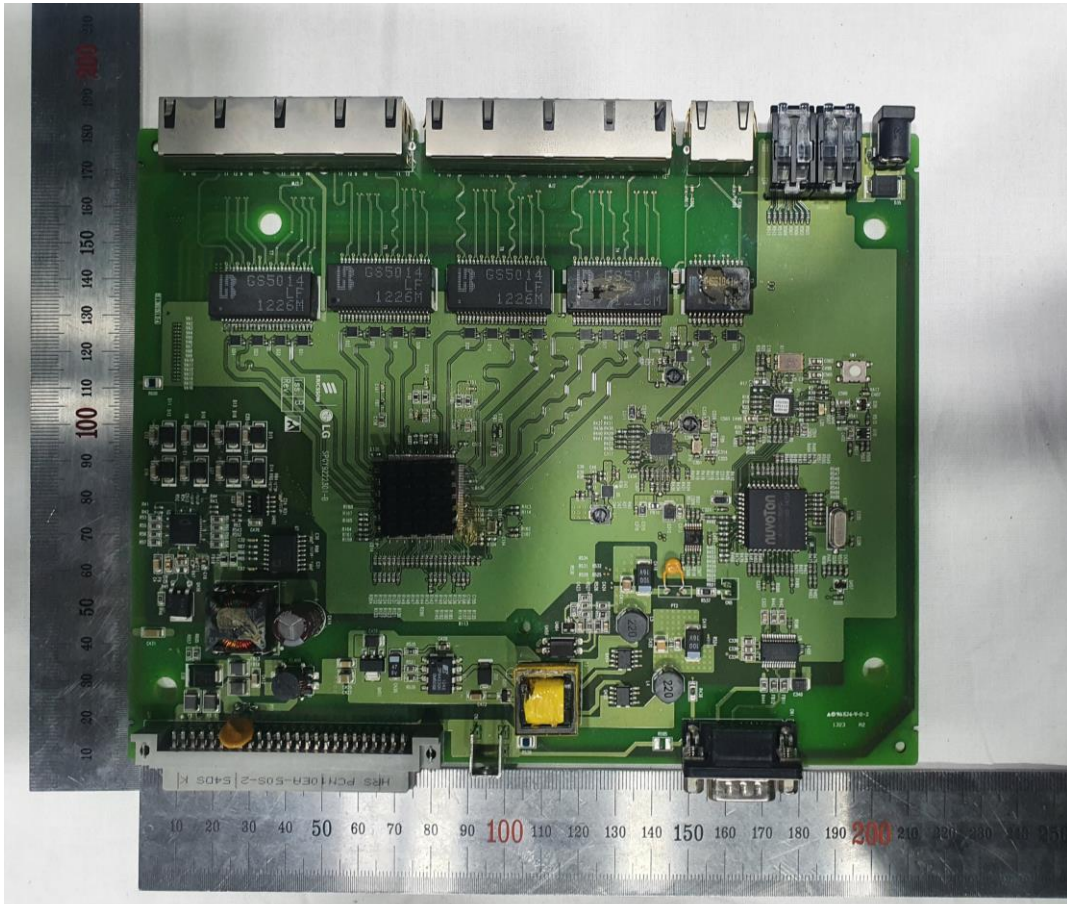
* ES8G board View



* ES8GP Module View



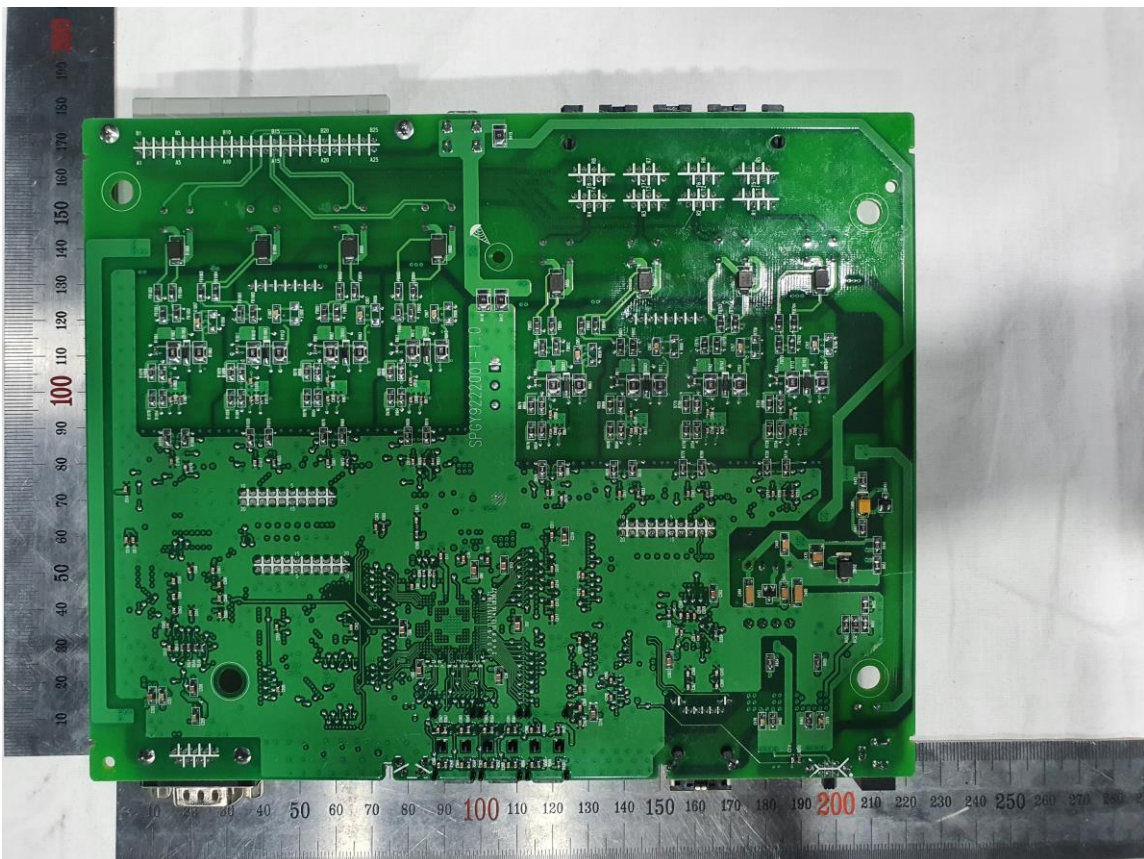
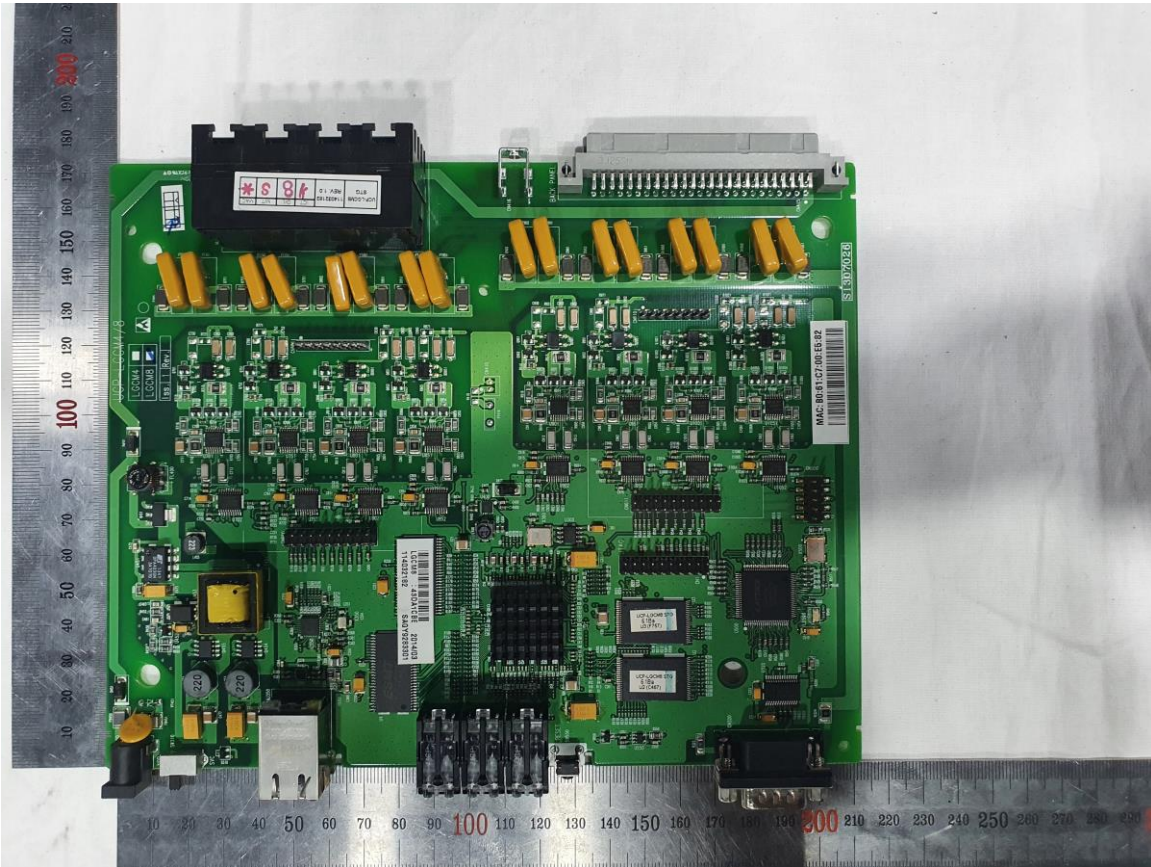
* ES8GP board View



* LGCM8 Module View



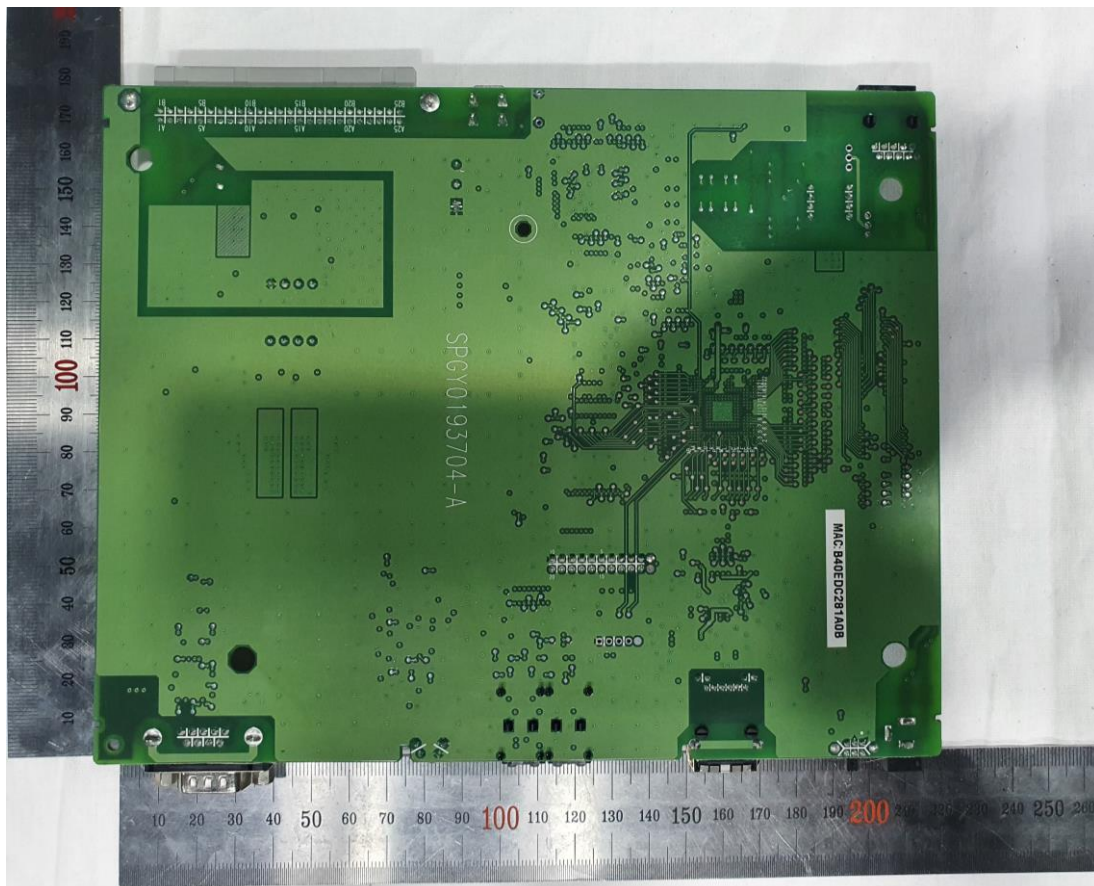
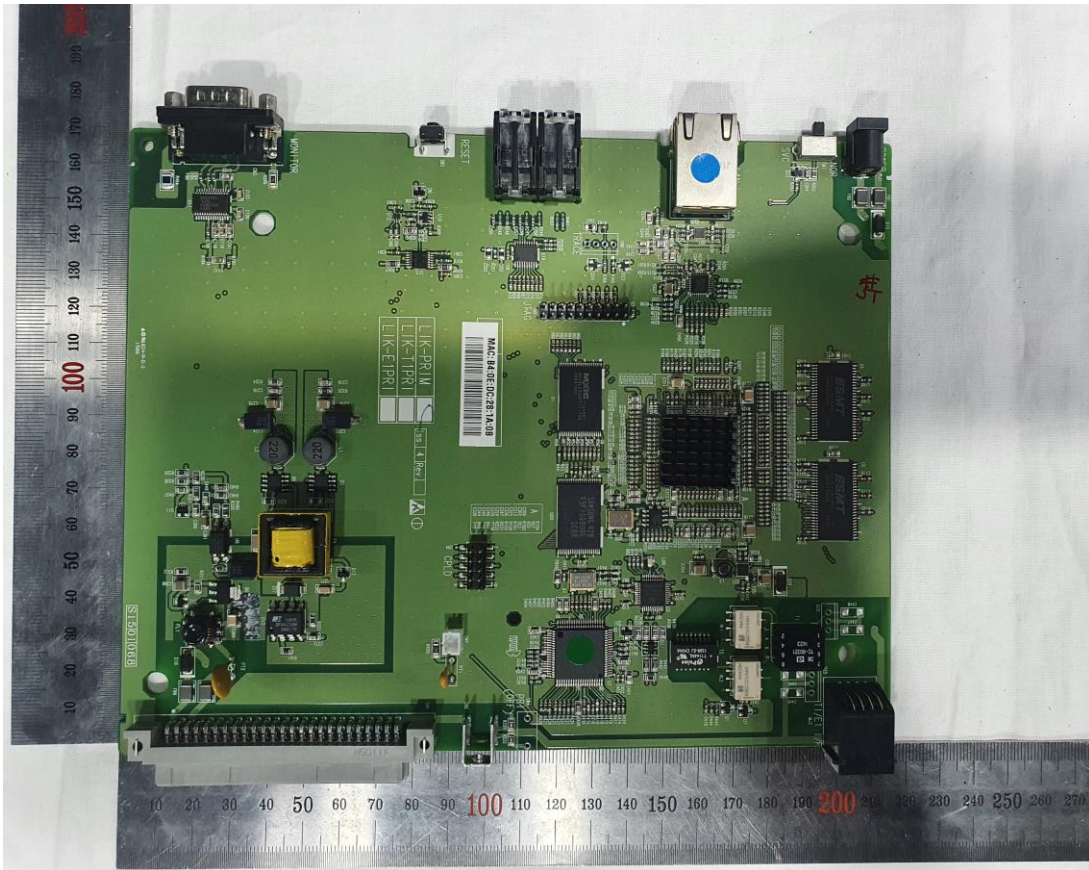
* LGCM8 PCB View



* PRIM Module View



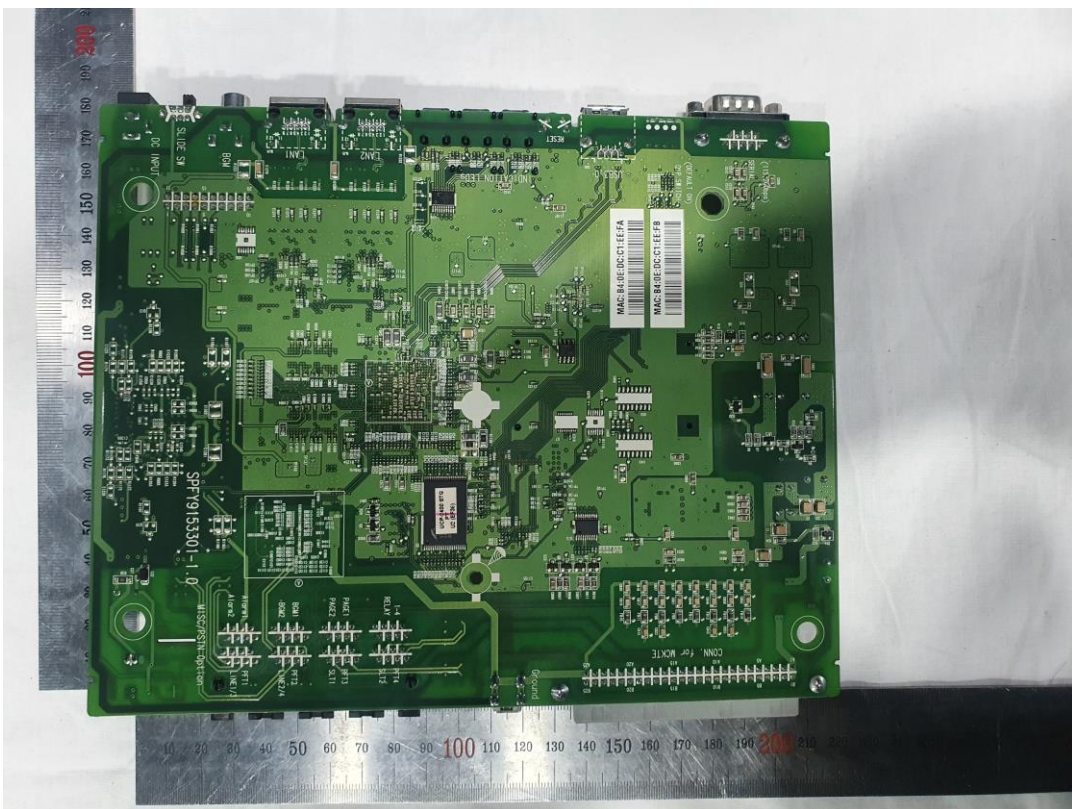
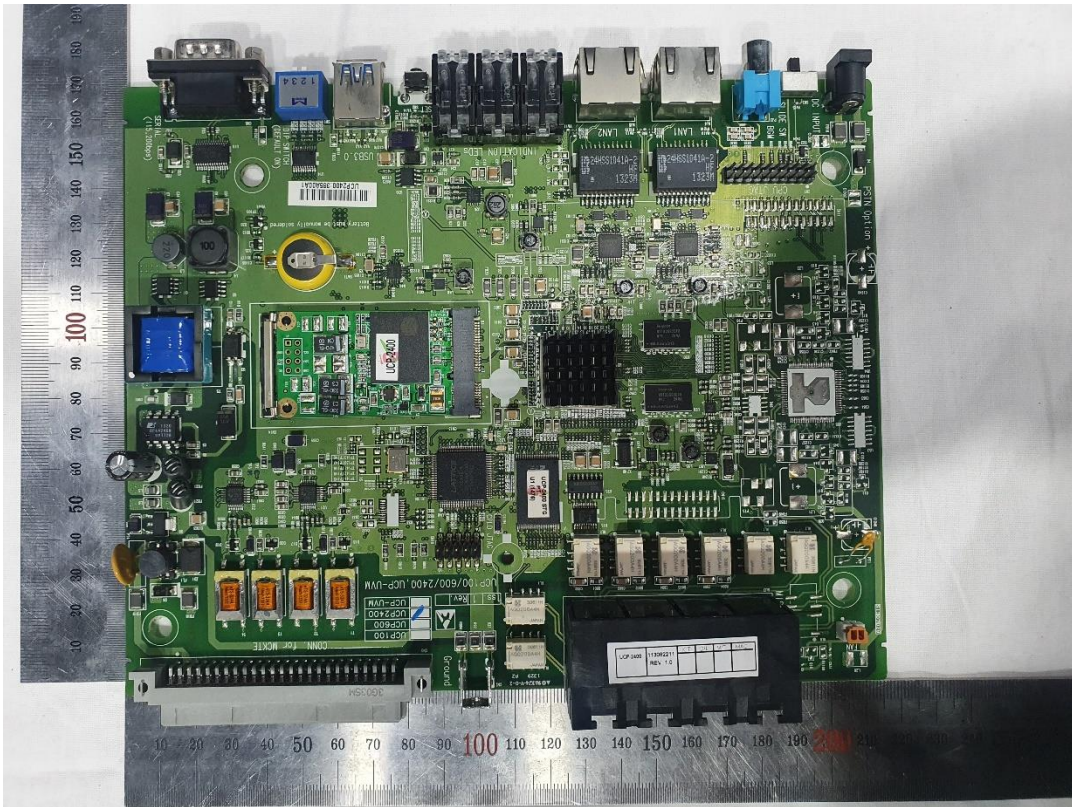
* PRIM PCB View



* UCP2400 Module View



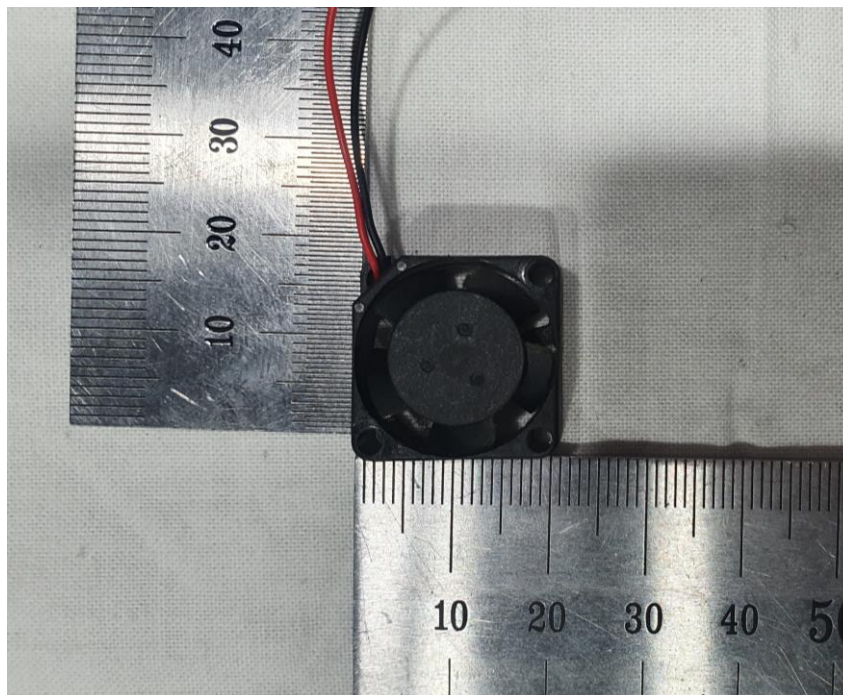
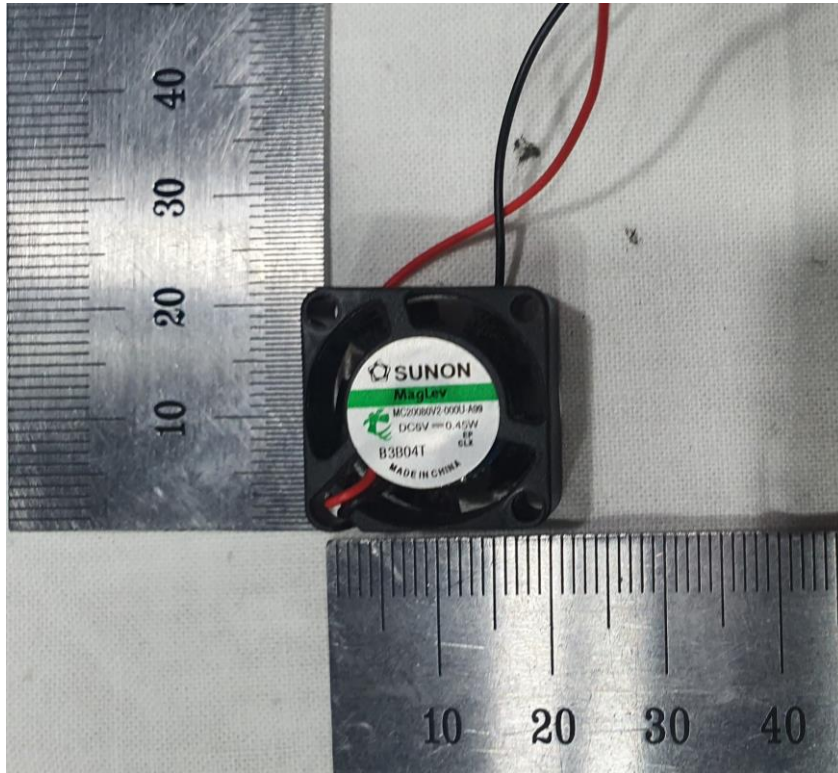
* UCP2400 PCB View



* UVM Module View



* Fan motor in UVM Module



* VOIM24 Module View



* VOIM24 PCB View

